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THE JOSHUA SYSTEM

Vol. 9.2 OPERATING SYSTEM

Approved by

J. R. Hilley, Research Manager
Computer Applications Division

NOTICE

~~This document contains descriptions of the JOSHUA Operating System and Applications Modules. The document is prepared as a set of loose-leaf notebooks which will be periodically updated. All of the material is preliminary and should not be referenced.~~

JANUARY 1974

MASTER

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Purpose: To read JOSHUA input data for batch run.

Attribute: Reusable

JOS Main Program Name: JBREAD

Arguments:

<u>Parameter</u>	<u>Type</u>	<u>Description</u>
CCB	D	CCBMCB - Monitor Control Block
BUFFER	D	Card Buffer

Communication Area: DCB for SYSIN (FT05FO01).

External References: GETMAIN, FREEMAIN, OPEN, READ, CHECK

Data Sets: SYSIN Data Set (FT05FO01).

Program Logic: The address of the CCB is received via the argument list. The SYSIN data control block is opened if not already opened. A READ macro is then issued to read a card into the buffer. If an end of data is indicated the EOD flag (CCTEOD) is set before a return is issued.

Referenced By: JTDSPLY (batch version), JTSNOPEN, JTCOMCTL

Language: Assembler

Author: W. H. Brotherton, Jr.

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Module: JBSPNHPG

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Purpose:

To punch terminal images via the system
PUNCH device.

Attribute:

Nonreusable

JOS Main Program Name:

JBSPNHPG

Data Sets:

SYSIN, PUNCH DATA SET

Program Logic:

This program reads card images and writes
them to punch device a card at a time until
an end of data is reached, at which time
a return is issued.

Language:

FORTTRAN IV

Author:

W. H. Brotherton, Jr.

JOSHUA

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Module: JBSRTPG

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Purpose: To write terminal images via the system SYSOUT device.

Attribute: Nonreusable

JOS Main Program: JBSRTPG

Data Sets: SYSIN, SYSOUT

Program Logic: The program reads card images which have been given to HASP by Reader 3. These card images are printed in sets of 12 to represent one 2260 display. There are two displays printed per page.

Language: Fortran IV

Author: F. D. Knight

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Title Module: JBSTAE

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Purpose: To provide an indicative dump upon abnormal termination.

Attribute: Reusable

JOS Main Program Name: JBSTAE

Communication Area: Task Control Block, STAE Control Block

Internal Table: Translate table.

Subprogram Used: JIBCOM

External References: OPEN, CLOSE, LOAD, WRITE, CHECK

Data Sets: FTO6F001 (Printer)

Program Logic: The address of the STAE control block is received via register 1. The printer is opened as output by issuing an OPEN macro instruction. The program name with appropriate message is then written to the printer by issuing a WRITE macro instruction. The entry point is converted to a printable form and written to the printer. Next the register content address is picked up from the STAE control block and then contents of them are converted to printable form and written to the printer. The interrupt addresses are then located through the task control block and they are written to the printer. The module name list is located along with their relocation address; this information is also printed. A debugging message is then written by the printer after which a CLOSE macro instruction is issued to close the printer data set. A LOAD macro is issued to bring in the I/O interface module, JIBCOM, after which there is a BAL to it for initialization. After initialization a BAL is made to the STOP routine of IBCOM. Then a return is issued.

Referenced By: JIBINIT

Language: Assembler

Author: R. L. Boyce, Jr.

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'BCDHEX ROUTINE':

UNPACK CHARACTERS.
TRANSLATE TO EBCDIC
BLANK GARBAGE
CHARACTER.

RETURN TO LINKING
BLOCK.

'WRITE ROUTINE':

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Module: JBSTIMER

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Purpose: To intercept control in order to close out job before CPU time runs out.

Attribute: Nonreusable

JOS Main Program Name: JBSTIMER

External References: ABEND

Program Logic: The program is entered via its entry name and an abnormal ending with a dump is requested by issuing the ABEND macro instruction.

Referenced By: JIBINIT

Language: Assembler

Author: R. L. Boyce, Jr.

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ENTRY

ISSUE 'ABEND' MACRO
FOR ABNORMAL
TERMINATION.

Purpose:

In a batch-executing module, to write JOSHUA system or user messages to the communication data set and, in computational modules, to the job data set.

Attribute:

Nonreusable

JOS Main Program:

JERR

Arguments:

<u>Mnemonic</u>	<u>Type</u>	<u>Description</u>
\$MCB	Real*8	CCB - supplied by the precompiler.
MSG	Real*8	Eight doubleword array containing the user error message; blank when no user message was defined.
IERRNO	Integer*4	Fullword error or STOP number.

Subprograms:

Excludes all references developed by the JOSHUA precompiler.

External References:

\$LINK, JIBINIT (thru \$LINK)

Data Sets:

JOSHUA data sets
Communication data set (CDS)

Program Logic:

- The contents of \$MCB are moved to the precompiler-generated area \$JCB.
- The error counter in \$MCB and \$JCB (\$NOERR) is incremented by one.
- An error message is associated with IERRNO by:
 1. finding a user message in MSG; failing that,
 2. reading 'SYSTEM'. 'MESSAGE'. IERRNO; and failing that,
 3. substituting a general message to the effect that no error message was locatable.
- An error with a user-defined message is labelled as a user error; all others are labelled as system errors.
- The error number and message are written to the CDS; \$SYS is used to reference the CDS.
- For computational modules, the message is also written to the output JOSHUA data set as 'MESSAGE'. \$NOERR. Any error in writing to the JOSHUA data set is noted on the CDS.
- IERRNO is moved to the error number field of \$MCB and, when IERRNO is not zero, the error flag field of \$MCB is set to one.

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。 Execution is terminated by a RETURN statement.

Language:

FORTRAN IV (JOSHUA precompiled as a subroutine)

Author:

J. C. Jensen

Remarks:

Since \$MCB will not necessarily represent the true CCB, a "reverse" JIBINIT is executed before returning.

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Module: JERSET

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Purpose:

To limit standard error handling of the following IHC - messages to a single occurrence: 211-214; 216-229, 231-235.

Attribute:

Nonreusable

JOS Main Program:

JERSET

Arguments:

None

Subprograms:

FORTRAN - supplied subroutine ERRSET

Program Logic:

The FORTRAN extended error handling option table is modified for the above error numbers by call to ERRSET. Modifications limit the number occurrences of any of the errors to one and suppress printing of the traceback.

Language:

FORTRAN IV

Author:

R. L. Boyce, Jr.

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Module: JIBCOM

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Purpose:

To provide a serially reusable module to interface with the nonreusable FORTRAN Input/Output handler.

Attribute:

Serially reusable

JOS Main Program Name: JIBCOM

External References:

OPEN, LOAD, CLOSE, JIBCOM1

Internal Table:

List of entry point addresses.

Program Logic:

The address of the entry point addresses of the I/O modules is tested for zero. If the address is zero, the registers are saved. Then the JIBCOM1 routine is LOADED in and linked to by a BALR instruction. From JIBCOM1 the address of the entry point addresses of the I/O modules is obtained and the address is set up for a return. If the address had not been zero (the test at beginning of module), the address would have just been set up for the return.

Referenced By:

JTINIT, JIBINIT

Language:

Assembler

Author:

R. L. Boyce, Jr.

JOSHUA

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Title

Module: JIBCOM1

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Purpose: To perform all FORTRAN Input/Output requests.

Attribute: Nonreusable

JOS Main Program Name: JIBCOM1

Component Subprograms: \$BERR, JIBCOM1, DEFINE, SETBTF, other FORTRAN I/O routines.

Objective: The program performs all FORTRAN Input/Output requests.
See IBM manuals and subprograms for details.

Program Logic: This module has its control of flow of subprograms external to module. The routines used to perform initialization of addresses and I/O linkage are listed below with their respective function.

\$BERR - To set up JOSHUA Data Manager messages.

JIBCOM1 - To call DEFINE routine and load address of the entry point addresses of the I/O modules.

DEFINE - To initialize FORTRAN direct access data sets.

SETBTF - To return to calling routine.

There are also IBM FORTRAN I/O routines.

Referenced By: JIBCOM, See IBM FORTRAN I/O manuals.

Language: FORTRAN, Assembler

Remarks: JIBCOM1 is a resident load module with many entry points.

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MODULE LAYOUT:

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Title Subroutine: JIBCOM1

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Purpose: To provide a list of pointers to all entry points within this module.

Subprograms Used: DEFINE

Program Logic: The DEFINE routine is called and then the pointer to the entry point address list is set up in register 1. A return is then issued.

Referenced By: JIBCOM1

Language: Assembler

Author: R. L. Boyce, Jr.

Purpose: To initialize FORTRAN JOS Module.

Attribute: Nonreusable

JOS Main Program Name: JIBINIT

Arguments:

Parameter	Type	Description
CCB	D	Communication control block.
JCB	D	Common "CCB" for batch (option argument).

External References: LOAD, JBSTAE, STAE, JBSTIMER, STIMER, JIBCOM, DELETE

Objective: To initialize FORTRAN JOB Module by:

- (1) Transferring control information between JOS control block and local FORTRAN module area as applicable.
- (2) Providing the necessary initialization of the FORTRAN Input/Output handler to assure proper linkage.
- (3) Assuring the FORTRAN Input/Output handler's initialization of all direct access data sets.
- (4) Providing an exit routine for abnormal termination of the FORTRAN module.

Program Logic:

The CCB address and the JCB address (optional argument) are received via the argument list. If only one argument is received, a test is made to see if IBCOM is desired. If IBCOM is not desired, a return is issued; otherwise, JIBCOM is LOADED and the BALR instruction is used to "link" to it for IBCOM addresses. A link is then made for IBCOM initialization with the save area pointer (register 13) set to the third previous save area (control routine-JTMON). Afterwards control is passed to the "define" routine to define system data sets. A DELETE is then issued on JIBCOM and a return is issued.

If there are two arguments and if the second argument (JCB) has already been initialized, the JCB is moved to the CCB and a return is issued; otherwise, the JCB is initialized by moving JCB to CCB, and a test is made on the monitor mode flag. If the flag (\$CBMONF) indicates functional mode, the same procedure indicated for a one argument call is followed. If the flag indicates computational mode, a STAE exit routine, JBSTAE, is loaded and set up via STAE macro. JBSTIMER is then loaded and if the GTIME specified by the user is

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reached up to a particular point, an "abend" is issued through the module. After this the same procedure that one argument had is followed.

Referenced by:

All JOSHUA Fortran Modules

Language:

Assembler

Author:

R. L. Boyce, Jr.

Purpose: To set up abend code and perform applicable cleanup.

Attribute: Nonreusable

JOS Main Program Name: JTABEND

Arguments:

<u>Parameter</u>	<u>Type</u>	<u>Description</u>
CCB	D	CCBMCB - Monitor Control Block \$CBMODE - Mode Flag (full word)

Internal Tables: Translate table - TRTBL

External References: GETMAIN, FREEMAIN, LOAD, JTUSERCD, DELETE

Data Sets: SYSOUT (printer)

Program Logic: The address of the CCB is received via the argument list. If there is no terminal display buffer (MCBBUFFG), the GETMAIN macro instruction is used to obtain one. The completion code is then checked for a normal completion. If completion is normal, a return is issued; otherwise, it is checked for a general completion code, user completion code or OS completion code. If it is a general completion code, the procedure fields are set complete, the read hierarchy is reset, and the message is moved to the buffer. If the batch mode flag (\$CBMODE) is off, the reselect flag (MCFRSELF) is turned on and a return is issued. If the batch flag is on, the buffer is written to SYSOUT via BALR to WPAGE before setting up for the return.

If the code is a user completion code, a LOAD macro instruction is used to obtain the JTUSERCD module and a BALR is made to it. On return from the module a DELETE macro is issued. Pointers are restored and the code is converted before setting the procedure fields complete, etc. (as before).

If the code is from OS, it is converted and the fields are set complete and the other checks are made as before.

Referenced By: JTMON

Language: Assembler

Author: R. L. Boyce, Jr. and W. H. Brotherton, Jr.

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Title

Module: JTABLOGC

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Purpose:

To assure close out of data sets allocated to a particular terminal.

Attribute:

Nonreusable

JOS Main Program Name:

JTABLOGC

Arguments:

Parameter

Type

Description

CCB

D

CCBMCB - Monitor Control Block

External References:

GETMAIN, FREEMAIN

Program Logic:

The address of the communication control block is received via the argument list. A check is made to see if there is a dynamic allocation table (DAT). If there is not one, the end of function flag (FCTNMSK) is set and a return issued. The same procedure is followed if there are no data sets assigned to the particular terminal. If there are some assigned, a return is issued.

Referenced by:

JTMON

Language:

Assembler

Author:

R. L. Boyce, Jr.

JOSHUA

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Title Module: JTACCTCK

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Purpose: To prevent overflow of the on-line accounting data set.

Attribute: Nonresusable

JOS Main Program Name: JTACCTCK

Arguments:

Parameter

Type

Description

CCB

D

CCBMCB - Monitor Control Block

Internal Tables: JCL table

External References: GETMAIN, FREEMAIN, READ, WAIT, WRITE, ABEND

Data Sets: Control and communication data set. Hold queue data set.

Program Logic: The address of the CCB is received via the argument list. The accounting control record is READ and the clean-up flag (ACBFLAGS) is checked to see if the jobs have been put in hold queue data set. If the flag is on, a return is issued; otherwise, the flag is turned on and the record is written out. The hold queue control record is then read and appropriate areas set up. The JCL for two clean-up jobs are then written to the hold queue data set. The hold queue control record is then updated and a return is issued.

Terminating Conditions: If an I/O error is encountered, an ABEND macro is issued.

Referenced By: JTINIT

Language: Assembler

Author: W. H. Brotherton, Jr.

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Module: JTALOGIC

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Purpose: To initiate function restart when applicable.

Attribute: Nonreusable

JOS Main Program Name: JTALOGIC

Arguments:

Parameter

Type

Description

CCB

D

CCBMCB - Monitor Control Block

External References: GETMAIN, FREEMAIN

Program Logic: The address of the communication control block (CCB) is received via the argument list. The pointer to the integers work area is picked up and the third integer (function restart flag) is tested for zero. If the flag is zero, a return is issued. Otherwise, the function control table (MCBCFCT) is set for the beginning of the function list before issuing a return.

Referenced by: JTMON

Language: Assembler

Author: R. L. Boyce, Jr.

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Module: JTAUTOEM

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Purpose: To set up automatic execution of member if applicable.

Attribute: Nonreusable

JOS Main Program Name: JTAUTOEM

Arguments

Parameter

Type

Description

CCB

D

CCBMCB - Monitor Control Block

External References: GETMAIN, FREEMAIN

Program Logic: The address of the communication control block (CCB) is received via the argument list. If the end of data flag (CCTEOD) is on, the execute member (EM) function is set up before returning; otherwise, a return is issued.

Referenced by: JTMON

Language: Assembler

Author: W. H. Brotherton, Jr.

JOSHUA

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Module: JTBLARG

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Purpose: To build sub-function argument list.

Attribute: Nonreusable

Arguments:

Parameter

Type

Description

CCB

D

Communication Control Block (CCB)

Program Logic:

The address of the communication control block (CCB) is received via the argument list. The standard argument list is set up in the argument list area (ARG). If the standard argument list is requested control is returned via the standard return linkage. If the alternate argument list is requested, it is set up and control is returned. If a variation of the standard is requested, the argument list is generated in a local area and then moved to the standard argument list area (ARG). Control is returned via the standard return linkage.

Referenced By: JTMON

Language: Assembler

Author: R. L. Boyce, Jr.

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Title Module: JTBLDDAT

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Purpose: To construct an area for controlling dynamic allocation of data sets.

Attribute: Nonreusable

JOS Main Program: JTBLDDAT

Arguments:

<u>Parameter</u>	<u>Type</u>	<u>Description</u>
CCB	D	CCBMCB-Monitor Control Block (MCB)

External References: GETMAIN, FREEMAIN

Program Logic: The address of a communication control block (CCB) is received via the argument list. The task input output table (TIOT) is searched for data definition entries to be used for dynamic allocation and deallocation of data sets and pertinent information is recorded in a temporary dynamic allocation table (DAT). After the temporary DAT is constructed, a permanent location is obtained by issuing a GETMAIN macro. The DAT is transferred to the permanent area and the address is saved in the region control block. Control is returned via the normal exit.

Referenced By: JTINIT

Language: Assembler

Author: R. L. Boyce, Jr.

JOSHUA

DPSTM-500

Title Module: JTBLDDT

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Purpose: To build a table representing all data definition (DD) cards associated with terminals.

Attribute: Nonreusable

JOS Main Program: JTBLDDT

Arguments:

<u>Parameter</u>	<u>Type</u>	<u>Description</u>
RCF	D	Region Control Flags (RCF)
DDT	D	Data Definition Table (DDT)

Program Logic: The addresses of the region control flags (RCF) and the data definition table (DDT) is received via the argument list.

The task input output table (TIOT) is searched for terminal associated data definition (DD) entries and pertinent information is recorded in the DDT. The total number of entries in the DDT is recorded in the region control flags (RCF). In the absence of associated DD entries, the batch mode flag is set in the RCF.

Control is returned through standard return linkage.

Referenced By: JTINIT

Language: Assembler

Author: R. L. Boyce, Jr.

Purpose: To build the parameter control block.

Attribute: Nonreusable

JOS Main Program Name: JTBLDPCB

Arguments:

<u>Parameter</u>	<u>Type</u>	<u>Description</u>
PRM	D	Parameter list
PCB	D	Parameter control block.

External References: SVC 252, ENQ

Objective: The module has two main objectives:

- (1) Build the parameter control block from parameter list.
- (2) Eng on appropriate BNAM path.

Program Logic: The parameter list and the parameter control block (PCB) are received via the argument list. The PCB is blanked. The parameter list is set up for analysis next. Then the badge number is obtained via SVC 252 and the elapsed time is recorded in the PCB. If it is not a protected run, the badge number is overlaid with zeros. The BNAM path number is then determined and enqueued via ENQ macro; this path number is also stored in PCB. A validity and type check is then made on the parameters-member name, user data set, job data set, job space, disposition, release option, timer option, go time, buffer number, buffer size, and scratch space. If there is an invalid parameter, a default parameter is entered. The data set defaults are set up next and then a return is issued.

ENQ Name: JOSYSTEM PATHN, where N is the path number assigned.

Referenced by: JTINIT

Language: Assembler

Author: W. H. Brotherton, Jr.

JOSHUA
DPSTM-500

Title Module: JTBLDPCB

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JOSHUA

DPSTM-500

Title

Module: JTBLDQUE

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1

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Purpose:

To write the JCL cards built to the hold queue data set if express limit not met.

Attribute:

Nonreusable

JOS Main Program Name:

JTBLDQUE

Arguments:

Parameter

Type

Description

CCB

D

CCBMCB - Monitor Control Block

External References:

GETMAIN, FREEMAIN, READ, WAIT, WRITE

Data Sets:

Hold Queue Data Set
Communication Data Set

Objective:

The module has the following objectives:

- (1) If tapes were requested, the volume-serials for them are added to the SETUP card.
- (2) Hold queue jobs are written to the hold queue data set.

Program Logic:

The address of the CCB is received via the argument list. The first page of the communication data set is read and if any tapes have been desired, their volumes serials are added to the SETUP card and the entire page is put back out to the communication data set via WPAGE. The holdque flag (GCCHDQUE) is then checked. If the flag is on, the communication data set containing the JCL is written to the hold queue data set by a series of reads and writes. The control record for the hold queue is updated afterwards and a return is issued. If the job had been express, the restart flag for the communication data set would have been set and a return issued.

TERMINATING Conditions:

The module will terminate with an appropriate code upon an I/O error or upon filling up the hold queue data set.

Referenced by:

JTMON

Language:

Assembler

Author:

W. H. Brotherton, Jr.

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JOSHUA

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Title

Module: JTBNAMCL

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1

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Purpose: To issue BNAM close of data sets.

Attribute: Nonreusable

JOS Main Program Name: JTBNAMCL

Arguments:

Parameter

Type

Description

CCB

D

CCBMCB - Monitor Control Block

External References: GETMAIN, FREEMAIN, LOAD, JIBCOM

Program Logic: The address of the CCB is received via the argument list. The arguments to BNAM that are needed to close out the data sets are set up. CRAM's entry point is obtained via the resident control block (RES) and a BALR is made to it so as to pick up BNAM's address. Then BNAM is BALR'ed to for the close. A LOAD macro is then issued for JIBCOM, it is BALR'ed to pick up the address for IBCOM initialization after which it is linked to. Next, \$BERR is BALR'ed to so as to pick up error diagnostics. A return is then issued.

Referenced By: JTMON

Language: Assembler

Author: W. H. Brotherton, Jr.

JOSHUA

DPSTM-500

Title Module: JTBNAMSV

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Purpose: To transfer on-line accounting data to off-line storage (tape).

Attribute: Nonreusable

JOS Main Program Name: JTBNAMSV

Communication Area: DCB for BNAM accounting data set (on-line).
DCB for BNAM accounting data set (off-line).
DCB for terminal accounting data set.

External References: OPEN, READ, CHECK, PUT, CALL, WDUMP, WRITE, CLOSE, WAIT, TIME, ABEND

Data Sets: BNAM Accounting Data Set (on-line).
BNAM Account Data Set (off-line).
Terminal Accounting Data Set (on-line).

Objective: The objective of this module is to gather the BNAM statistics that have been accumulated and stored in on-line data sets and to put them to tape for future use.

Program Logic: The accounting data sets (on-line and off-line) are opened via the OPEN macro. An enq is then issued to protect data set from concurrent updating. The accounting control record for BNAM statistics is then READ. After this the '\$TUBE' accounting record is built. The record consists of a code name - \$TUBE, a member name - \$TUBE, a date, and the BNAM statistics that are picked up from the flag record in the accounting data set for the terminals. After the data is picked up from the flag record, the data fields are reset to zeros. After this record is built, it is written to the off-line data set (tape) and a CALL to WDUMP is issued to give a hard copy display at run-time. The records existing in the BNAM accounting data set are then READ, PUT to tape, and dumped via WDUMP call until the end of data is reached. On reaching the end of the data, the BNAM accounting data set is cleaned up by resetting the proper pointers. A deq is issued next. The data sets are then closed and a return is issued.

Terminating Conditions: An ABEND is issued on an I/O error.

ENQ Name: JOSYSTEM JOSQUEUE

Language: Assembler

Author: W. H. Brotherton, Jr.

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JOSHUA

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Title

Module: JTBNMERR

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Purpose: To determine BNAM error and give appropriate message.

Attribute: Nonreusable

JOS Main Program Name: JTBNMERR

Arguments:

Parameter

Type

Description

CCB

D

CCBMCB - Monitor Control Block

Internal Tables: Table of branches based on error number.

External References: CALL, SHIFTB, GETMAIN, FREEMAIN

Program Logic: The address of the CCB is received via the argument list. The error number is picked up and a branch is made to the section concerned with the particular error number. Each section puts out the appropriate error message. A return is then issued.

Referenced By: JTMON, JTUSERCD

Language: Assembler

Author: W. H. Brotherton, Jr.

JOSHUA

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Title Module: JTBNMERR

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Module: JTBR14

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1

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Purpose:

To provide a dummy module.

Attribute:

Nonreusable

JOS Main Program Name:

JTBR14

Program Logic:

The program is entered via entry name and a branch is taken to register 14.

Referenced by:

JTMON

Language:

Assembler

Author:

R. L. Boyce, Jr.

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JOSHUA

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Module: JTCBLKS1

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1

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Purpose:

To build the monitor control block (MCB-Section 1).

Attribute:

Nonreusable

JOS Main Program Name:

JTCBLKS1

Program Logic:

The program is entered via its entry point. The CCB, MCB, MCF, WCB, and WXT are set up. See Control Block Section for description of the control blocks.

Referenced by:

JTINIT

Language:

Assembler

Author:

R. L. Boyce, Jr.

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JOSHUA

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Module: JTCBLKS2

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Purpose:

To build the monitor control block (MCB-Section 2)

Attribute:

Nonreusable

JOS Main Program Name:

JTCBLKS2

Communication Area:

DECB for Control & Communication Data Set
DECB for Communication Data Set
Graphic Data Control Block
Program attention Routine & Control Block

External References:

READ, SAEC, SPAR, GREAD

Data Sets:

Control and Communication Data Set
Communication Data Set.

Program Logic:

The program is entered via entry name. The OSL, GAL, FCT, CCT, and FWK control blocks are set up. See Control Block Section for description of these control blocks.

Referenced by:

JTINIT

Language:

Assembler

Author:

R. L. Boyce, Jr.

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Module: JTCLOSDS

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Purpose: To close data control blocks for allocated data sets.

Attribute: Nonreusable

JOS Main Program Name: JTCLOSDS

Arguments:

Parameter

Type

Description

CCB

D

CCBMCB - Monitor Control Block

External References: GETMAIN, FREEMAIN, CLOSE

Program Logic: The address of the communication control block (CCB) is received via the argument list. The dynamic allocation table (DAT) is checked for; if there is not one, a return is issued. If there is a data set in use by the terminal, its DCB is closed via the CLOSE macro. After the table is searched and the closes issued, a return is issued.

Referenced by: JTMON

Language: Assembler

Author: R. L. Boyce, Jr.

JOSHUA

DPSTM-500

Title

Module: JTCOMCTL (BATCH)

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Purpose: To handle I/O in batch region.

Attribute: Reusable

JOS Main Program Name: JTCOMCTL

Arguments:

Parameter

Type

Description

CCB

D

CCBMCB - Monitor Control Block

Communication Area:

DCB for SYSOUT Data Set (FT06F001)

DCB for Punch Data Set (FT07F001)

External References:

GETMAIN, FREEMAIN, LOAD, OPEN, CALL, SHIFTB, WRITE,
JBREAD, WAIT, CHECK, ABEND

Data Sets

SYSOUT Data Set (FT06F001)

Punch Data Set (FT07F001)

SYSIN Data Set (FT05F001)

Objective:

This module has two objectives:

- 1) On RPAGE entry it will read up to ten lines of data into display buffer.
- 2) On WPAGE entry it will write or punch (depended on request) the buffer contents.

Program Logic:

The address of the communication control block (CCB) is received via the argument list. The entry point (either WPAGE or RPAGE) is indicated via setting register zero to zero or one. If it is a RPAGE entry (register zero equal to one), JBREAD is loaded (if not already located), its entry address is saved, and sixty-four character lines are set in buffer for a total of ten reads (lines) or until an end of data is reached which ever comes first. A return is then issued. If the entry had been WPAGE (register zero equal to zero), the function logic flag (FCTLOGIC) is checked to see if it is for punching or printing. If the flag is on, punching is indicated and the following actions are taken:

- (1) The DCB for the punch data set is opened if not already.
- (2) A title card is punched if it is start of I/O (CCTRSTRT flag on) and if the data manager is enqueued. The title is picked up via CALL to SHIFTB with name one as argument.

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- (3) The display buffer is punched for a total of ten cards taking 64 characters at a time from the buffer.
- (4) A return is issued after punching buffer.

If printing is indicated, the following actions would be taken:

- (1) The print data set is opened if not already open.
- (2) If the FCTALIGN flag is on, a 64 character write is desired; otherwise, an eighty character write is desired per line. The required length is set.
- (3) If the data manager is enqueued, the appropriate carriage control is set and a title page is written.
- (4) Ten lines of the buffer are then printed taking either sixty-four or eighty characters a line.
- (5) A return is then issued.

TERMINATING CONDITIONS:

An ABEND is issued on obtaining an input/output error.

Referenced by:

JTMON; the calling program

Language:

Assembler

Author:

W. H. Brotherton, Jr.

Purpose: To perform communication data set input/output services.

Attribute: Reenterable

JOS Main Program Name: JTCOMCTL

Arguments:

<u>Parameter</u>	<u>Type</u>	<u>Description</u>
CCB	D	CCBMCB - Monitor Control Block (MCB)

External References: GETMAIN, FREEMAIN, WRITE, WAIT, READ

Program Logic: Entry is made either at WPAGE or RPAGE entry points. Upon getting control a flag is set to indicate which location was entered before passing control to a common processing point. The address of the communication control block (CCB) is received via the argument list. If this is the initial paging operation, the appropriate flags are set in the communication control table (CCT). When the page request is out of range an error message is set up in the display buffer, the appropriate completion code is set and control is returned via the abnormal exit.

The pointers and necessary control fields are set up for an input or output operation. If output is to be performed, the data is aligned as required in the display buffer and the data is transferred to the requested page of the communication data set by issuing WRITE and WAIT macros. If input is to be performed the data is transferred from the requested page of the communication data set to the display buffer. Alignment as required is performed within the display buffer. The 'end of data' flag is set when the last page of data is in the display buffer. If an error condition is detected on either input or output operation, and error message is set in the display buffer and control is returned via an abnormal exit, else a normal exit is taken.

Referenced By: JTCOMCTL

Language: Assembler

Author: R. L. Boyce, Jr.

JOSHUA

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Title

Module: JTDADR

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Purpose: To allocate or deallocate a data set.

Attribute: Nonreusable

JOS Main Program Name: JTDADR

Arguments:

<u>Parameter</u>	<u>Type</u>	<u>Description</u>
CCB	D	CCBMCB - Monitor Control Block
OPTION	F	Option - A - Allocate D - Deallocate
DSNAME	F	Data Set Name
DCB	F	Data Control Block
CODE	F	Completion Code

External References: GETMAIN, FREEMAIN, ENQ, LOCATE, OBTAIN, LINK, DALLOC, DEQ

Data Sets: The requested Data Set.

Objective: The objective is to allocate or deallocate a requested data set provided the necessary criteria is met.

Program Logic: The addresses of the arguments are received and an ENQ is issued on an allocation/deallocation name. If the ENQ is unsuccessful, a completion code is set, DEQ issued, and a return issued. If there is no dynamic allocation table, a similar procedure to the unsuccessful ENQ is followed. A data definition (DD) entry is set up provided a position is available and provided the data set is not in use by another user. If the provisions are met, a completion code is set up, DEQ issued and a return is issued (error procedure). Next, the LOCATE macro is issued to locate the data set; that is, what volume is it on. If the data set can not be found, the error procedure is followed; otherwise, the OBTAIN macro is issued to get the data set control block - data set type, etc. The protected data sets will not be handled. The dynamic allocation list (DAL) is built next and then the DCB is set up. A LINK is then issued to DALLOC for data set allocation. If the allocation is not successful, the error procedure is followed; otherwise, the appropriate DAT flags are set, the DEQ is issued, and a return is issued.

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Terminating Conditions:

Upon obtaining some difficulty (see Program Logic)
a code is set and a return is issued.

Referenced by:

JTEDCNTL

Language:

Assembler

Author:

R. L. Boyce, Jr.

JOSHUA

DPSTM-500

Title Module: JTDCAT

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Purpose: To display the scratch and user data set catalogs.

Attribute: Nonreusable (Reenterable in design)

JOS Main Program Name: JTDCAT

Arguments:

<u>Parameter</u>	<u>Type</u>	<u>Description</u>
CCB	D	CCBMCB - Monitor Control Block CCBSCRTH - Scratch data set name CCBJOB - Job data set name

External References: GETMAIN, FREEMAIN, LINK, DC

Program Logic: The address of the CCB is received via the argument list. If there was a scratch data set or job data set, DC is linked so as to display their catalogs. This is done by means of the LINK macro. A return is issued.

Referenced By: JTMON

Language: Assembler

Author: W. H. Brotherton, Jr.

'LINKDC' routine:

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Module: JTDEALDS

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Purpose:

To deallocate dynamically allocated data sets.

Attribute:

Nonreusable

JOS Main Program Name:

JTDEALDS

Arguments:

Parameter

Type

Description

CCB

D

CCBMCB - Monitor Control Block.

External References:

GETMAIN, FREEMAIN, LINK, JTDADR

Program Logic:

The address of the CCB is received via the argument list. If there is no dynamic allocation table (DAT), a return is issued. If there is a data set in use by the terminal, a LINK is issued to JTDADR to deallocate it. A return is issued on a successful deallocation; otherwise, a message with code is set up on return.

Terminating Conditions:

A message is set up in the display buffer upon obtaining a deallocation error.

Referenced by:

JTMON

Language:

Assembler

Author:

R. L. Boyce, Jr.

JOSHUA

DPSTM-500

Title Module: JTDOWN

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Purpose: To provide an accounting record for system termination.

Attribute: Nonreusable

JOS Main Program Name: JTDOWN

Arguments:

<u>Parameter</u>	<u>Type</u>	<u>Description</u>
CCB	D	CCBMCB - Monitor Control Block

Internal Table: A table of values (PERDATA) is set up for the down record.

External References: OPEN, READ, CHECK, WRITE, TIME, CLOSE

Data Sets: Control and communication data set; accounting data set.

Objective: The program serves two purposes:
(a) To provide a down record upon system termination.
(b) To complete basic information for records not completed when system terminates.

Program Logic: The address of the CCB is received via the argument list. The control and communication data set is OPENED. The flag record is then read by issuing a READ macro. The records that have not been logged out are then checked against the flag record as to the time and date data. This is done so as to give the flag record or accounting record the latest time. The down accounting record is then built by using the time and date obtained. This time (if necessary) is updated by two or three minutes before it is put into the time-on (ACTIMON) position in the record. The current time is then obtained (by issuing the TIME macro instruction) and put in the time-off (ACTIMOFF) and date-off (ACTDATOF) positions. If no time has been posted, store new values coming in and write the flag record out. All other information for the down record is obtained from PERDATA.

After the down record is set up, the basic information on the records of the terminals that were in use when the system went down is complete. A HEX 'FF' is set in the first byte of each record after it is logged out. If any date or time-on is greater than that in the down record, it will be moved to the down record. This will then be date-off and time-off in the other records. After these time and date corrections are made, the record is written to the accounting data set. Next, the down record is written to the accounting data set. It is then closed and a return is issued.

Referenced By: JTINIT

Language: Assembler

Author: W. H. Brotherton, Jr.

JOSHUA

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Title Module: JTDQJOB

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Purpose: To deq on job data set name.

Attribute: Nonreusable

JOS Main Program Name: JTDQJOB

Arguments:

Parameter

Type

Description

CCB

D

CCBMCB - Monitor Control Block

CCBJOB - Job Data Set Name

External References: GETMAIN, FREEMAIN, DEQ

Program Logic: The address of the CCB is received via the argument list. A check is made to see if the job data set is enq'd as the 'write data set'. If it is, no deq is issued; otherwise, the DEQ macro is issued on the job data set name (CCBJOB). A return is then issued.

ENQ Name: JOSYSTEM (Job data set name)

Referenced By: JTMON

Language: Assembler

Author: W. H. Brotherton, Jr.

JOSHUA

DPSTM-500

Title Module: JTDQSCR

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Purpose: To deq on scratch data set name.

Attribute: Nonreusable

JOS Main Program Name: JTDQSCR

Arguments:

<u>Parameter</u>	<u>Type</u>	<u>Description</u>
CCB	D	CCBMCB - Monitor Control Block CCBSCRTH - Scratch Data Set Name

External References: GETMAIN, FREEMAIN, DEQ

Program Logic: The address of the CCB is received via the argument list. The DEQ macro is issued to deq on the scratch data set name (CCBSCRTH). Name 1 of deq is JOSYSTEM. A return is then issued.

ENQ Name: JOSYSTEM (Scratch data set name)

Referenced By: JTMON

Language: Assembler

Author: W. H. Brotherton, Jr.

JOSHUA

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Module: JTDSP10L

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Purpose:

To handle local terminal input/output control.

Attribute:

Reenterable

JOS Main Program Name:

JTDSP10L

External References:

GETMAIN, GWRITE, WAIT, FREEMAIN, GREAD, ABEND

Program Logic:

The address of the Monitor Control Block (MCB) is received via register two. The data from display buffer is transferred to display terminal via the GWRITE macro. A WAIT is then issued on the graphic data event control block (GALDECBG). If a cursor placement is requested, a GWRITE is issued. Then the number of displays (WCBDSPLS) is accumulated. A test is then made to see if the buffer is to be kept; if not, a FREEMAIN is issued. A check is then made to see if the terminal is offline (MCFOFFLN); if it is offline, a return is issued; otherwise, a WAIT is issued for an external attention. A terminal input buffer (MCBBUFIN) is checked for and if not available a GETMAIN is issued. Then as graphic read (GREAD) is issued. If the page is not to be kept, a GETMAIN is issued for a terminal buffer (MCBBUFFG) if there is not one, then the terminal input is aligned into the buffer. The appropriate flags are set if a modification is indicated. After moving the input buffer to the display buffer, the input buffer is freed via FREEMAIN. The terminal is then placed offline (if applicable) and a return is issued.

Terminating Conditions:

On an I/O error the terminal is automatically signed off by setting up the proper function (EN).

Referenced by:

JTDSPLY

Language:

Assembler

Author:

R. L. Boyce, Jr.

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JOSHUA

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Module: JTDSPIOR

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Purpose:

To handle remote terminal input/output control.

Attribute:

Reenterable

JOS Main Program Name:

JTDSPIOR

Internal Table:

Translate Tables

External References:

WRITE, WAIT, FREEMAIN, GETMAIN, READ, STIMER, ABEND

Program Logic:

The address of the monitor control block (MCB) is received via register two. The translate tables are adjusted and the data in the buffer translated before the buffer is written to the terminal display. The cursor is placed if requested. The number of displays (WCBDSPLS) is then accumulated. The display buffer (MCBUFFG) is then freed via FREEMAIN (if there is a buffer). If the terminal is offline, a return is issued; otherwise, an input buffer (MCBBUFIN) is obtained and a READ issued to the terminal. If the completion code is normal and there is a negative response, the input buffer is freed and a STIMER is issued (two different wait times-are for active terminal and are for inactive terminal). After the STIMER the input is obtained and the READ is issued as before. If the response had not been negative, the input buffer would have been translated, a display buffer obtained (if not available), and an alignment made of input buffer in display buffer. The input buffer is then released, the terminal is set offline if applicable; and a return is issued.

Terminating Conditions:

If an I/O error occurs, the terminal is set up for sign-off.

Referenced by:

JTDSPLY

Language:

Assembler

Author:

R. L. Boyce, Jr.

Purpose: To handle terminal simulator input/output control.

Attribute: Resuable

JOS Main Program Name: JTDSPiOS

Arguments:

Parameter

Type

Description

CCB

D

CCBMCB - Monitor Control Block

Communication Area:

DCB for SYSOUT Data Set (FT06F001)

DCB for Reader Data Set (FT05F001)

External References:

GETMAIN, FREEMAIN, OPEN, TIME, READ, CHECK, WRITE, WAIT, ABEND

Program Logic:

The address of the communication control block (CCB) is received via the argument list. If the reader data set is not open, it and the SYSOUT data set is OPENED and a return is issued. If the data sets are open, the time is obtained via the TIME macro and put into the display buffer; it is then written to the SYSOUT data set. The buffer is then blanked. Cards are then read and moved into the buffer until twelve cards have been reached or an "end of function" is indicated. At this point the reread-rewrite flag (CCTRRDWR) is turned off and the modify flag (CCTMODFY) is checked. If the modify flag is one and more than one card was read, the read-rewrite flag is set on. The buffer is then written to SYSOUT. If there was any external request, it is set up before a return is issued. If an end of data is reached on the READ's, the job terminates flag (RCFTRMRQ) is set and a return is issued.

Terminating Conditions:

If an I/O error is encountered, a code is set up and a return issued.

Referenced by:

JTDSPLY

Language:

Assembler

Author:

W. H. Brotherton, Jr.

JOSHUA DPSTM-500	Title Module: JTDSPiOS	Vol. IX	Page E.1.260
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JOSHUA

DPSTM-500

Title

Module: JTDSPLW

Vol.

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E.1.261

Rev.

1

Date

6/73

Purpose:

To process attention originating from a terminal display unit.

Attribute:

Reenterable

JOS Main Program Name:

JTDSPLW

External References:

POST

Program Logic:

Upon entry to this routine register one contains the address of the graphic attention control block (GACB). The attention event control block is posted via POST macro and a return is issued.

Referenced by:

OS (Interrupt Handler for IBM 2260)

Language:

Assembler

Author:

R. L. Boyce, Jr.

JOSHUA

DPSTM-500

Title

Module: JTDSPLY (BATCH)

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Rev.

1

Date

6/73

Purpose:

To handle card function input.

Attribute:

Reusable

JOS Main Program Name:

JTDSPLY

Arguments:

Parameter

Type

Description

CCB

D

CCBMCB - Monitor Control Block

External References:

GETMAIN, FREEMAIN, LOAD, JBREAD

Data Set:

SYSIN Data Set (FT05F001); SYSOUT Data Set

Program Logic:

The address of the CCB is received via the argument list. The function logic flag (FCTLOGC2) is checked to see if the select function is indicated. If it is not select, a return is issued; otherwise, JBREAD is LOADED (initially) and the entry address saved. Then the request areas of the buffer (MCBBUFFG) is blanked. JBREAD is then linked to for card reading with the card image being put in the buffer starting with the function selection line. When an end-of-function is reached (indicated by a 'S/E'), the buffer is written out via WPAGE and a return is issued. If an end-of-data is indicated from JBREAD, the end-of-job function (EJ) is set up, the reselect function flag (MCFRSELF) is set, and a return issued.

Referenced by:

JTMON

Language:

Assembler

Author:

W. H. Brotherton, Jr.

JOSHUA

DPSTM-500

Title Module: JTDSPLY (Batch)

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1

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JOSHUA

DPSTM-500

Title

Module: JTDSPLY (Terminal)

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E.1.267

Rev.
1

Date
6/73

Purpose: To handle terminal input/output control.

Attribute: Reusable

JOS Main Program Name: JTDSPLY

Arguments:

Parameter

Type

Description

CCB

D

CCBMCB - Monitor Control Block

CCBCF - Protection flag.

External References: GETMAIN, FREEMAIN, TIME, LOAD, DELETE, JTPRTSV

Objective: The objective of the module is to handle the input/output control by directing the buffer to the appropriate external manager. There is a manager for three modes-remote mode, local mode, and simulator mode.

Program Logic: The address of the CCB is received via the argument list. If the "bypass display" flag is on, a return is issued. If it is required, the protection header and trailer is set in buffer. If the function work area (FWK) is available, the TIME macro is issued for a beginning wait time. The external input/output manager (MCBDSPIO) is BALR'ed to. On return from the manager any external request is set up if the terminal is active. If a print-page is desired for the display buffer a LOAD is issued for JTPRTSV and a link is made to it. Upon return from JTPRTSV a DELETE is issued. If the print save area is full, the manager is gone to again. If an end of function (BCLCMENF) is indicated, the end of function flag (FCTNMSK) is set and the "restart I/O" flag (CCTRSTRT) is reset. Next, the function wait time is accumulated and stored if the area is available and if the code (FWKCODE) is valid, a return is then issued.

Referenced by: JTMON, JTPAGER

Language: Assembler

Author: R. L. Boyce, Jr. and W. H. Brotherton, Jr.

JOSHUA DPSTM-500	Title Module: JTDSPLY (Terminal)	Vol. IX	Page E.1.270
		Rev. 1	Date 6/73

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Purpose: To invoke the execution of special functions.

Attribute: Nonresuable (Reenterable in design)

JOS Main Program: JTEDCNTL

Arguments:

<u>Parameter</u>	<u>Type</u>	<u>Description</u>
CCB	D	CCBMCB - Monitor Control Block (MCB)
TEX	F	Text Editor Control Block (TEX)
TXT	H	Text Editor Control Table (TXT)

External References: GETMAIN, FREEMAIN, JTDSPLY, JTDADR, LOAD, DELETE

Program Logic: The addresses of the communication control block (CCB), text editor control block (TEX) and text editor control table (TXT) is received via the argument list. When the display request is received, control is passed to the display module (JTDSPLY) for the transfer of data to the terminal and transfer of the reply from the terminal. The update flag is set if applicable and flags are set to recycle the function.

When data set allocation or deallocation is requested, the dynamic request module (JTDADR) is invoked and flags are set to recycle the function.

If the execute is requested, the necessary controls are set to point to the internal reader module for subsequent execution and the normal exit is taken.

When data set update verification is the request, controls are set to point to the verify module. This allows the update of a data set if the user is authorized to do so. Control is returned via the normal exit. For any other request, the recycle flags are set and control is returned via the normal exit.

Referenced By: JTMON

Language: Assembler

Author: R. L. Boyce, Jr.

JOSHUA

DPSTM-500

Title Module: JTEDINIT

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Rev. 1	Date 6/73
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Purpose: To initialize a control area for text editing.

Attribute: Nonreusable (Reenterable in design)

JOS Main Program: JTEDINIT

Arguments:

<u>Parameter</u>	<u>Type</u>	<u>Description</u>
CCB	D	CCBMCB - Monitor Control Block (MCB)
TEX	D	Text Edit Control (TEX)

Program Logic: The addresses of the communication control block (CCB) and text editor control area (TEX) is received via the argument list. The TEX is inialized and control is returned via the normal exit.

Referenced By: JTMON

Language: Assembler

Author: R. L. Boyce, Jr.

JOSHUA DPSTM-500	Title Module: JTEDINIT	Vol. IX	Page E.1.274
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JOSHUA

DPSTM-500

Title

Module: JTEDLOGC

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Rev.

1

Date

6/73

Purpose: To control the logic flow of the function.

Attribute: Nonreusable (Reenterable in design)

JOS Main Program: JTEDLOGC

Arguments:

Parameter

Type

CCB

D

CCBMCB - Monitor Control Block (MCB)

TEX

D

Text Editor Control Area

Program Logic: The addresses of the communication control block (CCB) and the text editor control area (TEX) is received via the argument list. If exit is requested, the end function request flag is set and control is returned via the normal exit. For any other request the flag is set to recycle the function and the normal exit is taken.

Referenced By: JTMON

Language: Assembler

Author: R. L. Boyce, Jr.

JOSHUA

DPSTM-500

Title Module: JTEJDEQ

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Rev. 1	Date 6/73

Purpose: To deq on resources used in the job run.

Attribute: Nonreusable

JOS Main Program Name: JTEJDEQ

Arguments:

<u>Parameter</u>	<u>Type</u>	<u>Description</u>
CCB	D	CCBMCB - Monitor Control Block CCBSCRTH - Scratch Data Set Name CCBJOB - Job Data Set Name

External References: GETMAIN, FREEMAIN, DEQ

Program Logic: The address of the CCB is received via the argument list.
The scratch data set name, the job data set name, the
write data set name, and the BNAM path number are dequeued on
via the DEQ macro. Next, it sets monitor close flag ON
and then issues a return.

ENQ Name: JOSYSTEM (Scratch data set name)
JOSYSTEM (Job data set name)
JOSYSTEM PATHN, where N is the Path number for BNAM

Referenced By: JTMON

Language: Assembler

Author: W. H. Brotherton, Jr.

JOSHUA

DPSTM-500

Title Module: JTEJRLSE

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Rev. 1	Date 6/73

Purpose: To release the unused space in a job data set (when applicable).

Attribute: Nonreusable

JOS Main Program Name: JTEJRLSE

Arguments:

<u>Parameter</u>	<u>Type</u>	<u>Description</u>
CCB	D	CCBMCB - Monitor Control Block CCBJOB - Job Data Set Name

External References: GETMAIN, FREEMAIN, LINK, SCRATCH

Program Logic: The address of the CCB is received via the argument list. If no job data space has been requested, a return is issued; otherwise, the disposition is checked to see if it was 'TMP'. If it was 'TMP', a return is issued; otherwise, the release option is checked to see if a release is desired. If a release is desired, a LINK is issued to SCRATCH with arguments indication the space release. If a space release is not desired, a return is issued.

Referenced By: JTMON

Language: Assembler

Author: W. H. Brotherton, Jr.

JOSHUA

DPSTM-500

Title Module: JTEMCL0S

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Rev. 1	Date 6/73

Purpose: To reset region for functional execution after computational run.

Attribute: Nonreusable

JOS Main Program Name: JTEMCL0S

Arguments:

<u>Parameter</u>	<u>Type</u>	<u>Description</u>
CCB	D	CCBMCB - Monitor Control Block
		CCBDS1 - Hierarchy Default Data Sets
		CCBDS2 - "
		CCBDS3 - "
		CCBDS4 - "
		\$CBMONF - Monitor Mode Flag

External References: GETMAIN, FREEMAIN

Program Logic: The address of the CCB is received via the argument list. The default data sets are set up in the CCB. The monitor mode flag (\$CBMONF) is set to the 'function' mode. A return is then issued.

Referenced By: JTMON

Language: Assembler

Author: W. H. Brotherton, Jr.

JOSHUA

DPSTM-500

Title

Module: JTEMINIT

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Date

1

6/73

Purpose: To prepare region for computational module execution.

Attribute: Nonreusable

JOS Main Program Name: JTEMINIT

Arguments:

Parameter

Type

Description

CCB

D

CCBMCB - Monitor Control Block

CCBJOB - Job Data Set Name

\$CBMONF - Monitor Mode Flag

External References: GETMAIN, FREEMAIN, ENQ

Program Logic: The address of the CCB is received via the argument list. The job name is then checked to see if it is enqueued for the 'write' mode. If it isn't enqueued, an ENQ macro is issued on the name. If the ENQ is unsuccessful an appropriate code is set up and a return is issued. On a successful ENQ (if it was required) the monitor flag is set to computational mode, the read hierarchy is set up, and the computation module name is set up for execution. A return is then issued.

Terminating Conditions: On an unsuccessful ENQ, a code is set up and a return issued.

ENQ Name: JTMON

Language: Assembler

Author: W. H. Brotherton, Jr.

JOSHUA

DPSTM-500

Title

Module: JTEXBUF

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1

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6/73

Purpose: To build execute frame in display buffer.

Attribute: Nonreusable

JOS Main Program Name: JTEXBUF

Arguments:

Parameter

Type

Description

CCB

D

CCBMCB - Monitor Control Block
CCBJOB - Job data set name
CCBSF - Protection flag.

External References: GETMAIN, FREEMAIN

Program Logic: The address of the communication control block (CCB) is received via the argument list. The display buffer is first blanked and then the execute frame is moved into it. Next, argument 1 (WCBARG1) is checked for a parameter list; if there is a parameter list, it is moved into its respective position in the buffer. (There may also be a parameter list in argument 2 (WCBARG2)). Next the job data set name is moved into its position of buffer. The protection flag is checked to see if a protected file sign on was established; if so, the proper parameters are set up. If the job data set name indicates that it is temporary, the disposition field is set to 'TMP'. A return is then issued.

Referenced by: JTMON

Language: Assembler

Author: W. H. Brotherton, Jr.

JOSHUA

DPSTM-500

Title

Module: JTEXINIT

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E.1.287

Rev.

1

Date

6/73

Purpose: To build job and execute cards from user supplied parameters.

Attribute: Nonreusable

JOS Main Program Name: JTEXINIT

<u>Arguments:</u>	<u>Parameter</u>	<u>Type</u>	<u>Description</u>
	CCB	D	CCBMCB - Monitor Control Block CCBBADGE - User's badge number CCBCC - User's cost code CCBSF - Protection flag

Internal Tables: Execute Control Table

External References: GETMAIN, FREEMAIN

Data Sets: Communication Data Set

Objective: This module has several objectives:

- (1) Builds job and execute cards.
- (2) Saves data requests and special requests.
- (3) Determines whether job will run as express or whether it will be put into holdqueue.
- (4) Routes job to appropriate printer.

Program Logic: The address of the communication control block (CCB) is received via the argument list. The data requests and special requests are picked up from the display buffer and stored in the general card control (GCC) control section. This section keeps information in the argument 2 section (WCBARG2). (See GCC control block for type of information). If all parameters are not received, an appropriate code is set up and a return is issued. The information received via the display buffer is then used to build the job and execute cards. The job will be routed to the appropriate printer based on the box number entry. If the protection feature is indicated, the appropriate parameters are set. The express limits are then checked, if the limits are not met, it is marked as holdque job. If the job is to run as a protected run, the proper fields are set. The job card information is then stored and the JCL built is written to the communication data set via WPAGE. A return is then issued.

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Terminating Conditions: The program will terminate with appropriate code upon receiving an improper protection code.

Referenced by: JTMON

Language: Assembler

Author: W. H. Brotherton, Jr.

JOSHUA

DPSTM-500

Title

Module: JTEXLOGC

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Rev.

1

Date

6/73

Purpose: To restart execute function upon request.

Attribute: Nonreusable

JOS Main Program Name: JTEXLOGC

<u>Arguments:</u>	<u>Parameter</u>	<u>Type</u>	<u>Description</u>
	CCB	D	CCBMCB - Monitor Control Block

External References: GETMAIN, FREEMAIN

Program Logic: The address of the CCB is received via the argument list. A restart is checked for, and if found, the current sub-function pointer (MCBCFCT) is backed up to paging routine and a return is issued. If a restart is not indicated, a return is issued.

Referenced by: JTMON

Language: Assembler

Author: W. H. Brotherton, Jr.

JOSHUA

DPSTM-500

Title Module: JTEXREGN

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Purpose: To initiate execution of module in terminal region.

Attribute: Nonreusable

JOS Main Program Name: JTEXREGN

Arguments:

<u>Parameter</u>	<u>Type</u>	<u>Description</u>
CCB	D	CCBMCB - Monitor Control Block

External References: GETMAIN, FREEMAIN, LOAD

Program Logic: The address of the CCB is received via the argument list. The module designated in argument 3 position (BCLSLAR3) is loaded in via the LOAD macro instruction. Its arguments are set up and the module is BALR'ed to. On return from the module, a return is issued.

Referenced By: JTMON

Language: Assembler

Author: W. H. Brotherton, Jr. and R. L. Boyce, Jr.

JOSHUA

DPSTM-500

Title

Module: JTEXTBUF

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Rev. 1

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Purpose: To build frame related to tapes usage when in execute mode.

Attribute: Nonreusable

JOS Main Program Name: JTEXTBUF

<u>Arguments:</u>	<u>Parameter</u>	<u>Type</u>	<u>Description</u>
	CCB	D	CCBMCB - Monitor Control Block

External References: GETMAIN, FREEMAIN

Program Logic: The address of the CCB is received via the argument list. The general control information is picked up and checked to see if a tape buffer is desired. If a tape buffer is not desired, the bypass display flag is set and a return is issued; otherwise, the tape frame is moved into the buffer and a return is issued.

Referenced by: JTMON

Language: Assembler

Author: W. H. Brotherton, Jr.

JOSHUA

DPSTM-500

Title

Module: JTFTIME

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Rev.

1

Date

6/73

Purpose: To collect accounting data.

Attribute: Nonreusable

JOS Main Program Name: JTFTIME

<u>Arguments:</u>	<u>Parameter</u>	<u>Type</u>	<u>Description</u>
	CCB	D	CCBMCB - Monitor Control Block

External References: GETMAIN, FREEMAIN, TIME

Program Logic: The address of the communication control block is received via the argument list. The function work area (FWK) is picked up. The code is checked to see if the function is valid. If it is invalid, a return is issued; otherwise, the number of request field is updated and stored (FWKNR). The elapsed time for the function (FWKET) is accumulated and stored. A return is then issued.

Referenced by: JTMON

Language: Assembler

Author: W. H. Brotherton, Jr., and R. L. Boyce, Jr.

JOSHUA

DPSTM-500

Title Module: JTIBEXIT

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1

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6/73

Purpose: To close out through IBCOM's exit.

Attribute: Nonreusable

JOS Main Program Name: JTIBEXIT

Arguments:

<u>Parameter</u>	<u>Type</u>	<u>Description</u>
CCB	D	CCBMCB - Monitor Control Block

External References: GETMAIN, FREEMAIN, LOAD, JIBCOM

Program Logic: The address of the CCB is received via the argument list. JIBCOM is loaded via the LOAD macro. It is linked so as to pick up IBCOM initialization address and STOP routine address. The IBCOM initialization is then linked to, followed by a link to the STOP routine. A return is then issued.

Referenced By: JTMON

Language: Assembler

Author: W. H. Brotherton, Jr.

JOSHUA

DPSTM-500

Title Module: JTIBEXIT

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JOSHUA

DPSTM-500

Title Module: JTINIT

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Rev. 1	Date 6/73

Purpose: To initialize a JOSHUA Operating System (JOS) region.

Attribute: Nonreusable

JOS Main Program Name: JTINIT

Arguments:

<u>Parameter</u>	<u>Type</u>	<u>Description</u>
Parm	C	Data passed by OS/360 from the Parm field in the EXEC card.

External References: GETMAIN, LOAD, JTRCBLKS, JTBLDDT, DELETE, OPEN, READ, WAIT, JIBCOM (JIBCOM1), JTCOMCTL, JBREAD, JTNITRML (See list in this module), JTCBLKS1, JTCBLKS2, JTDSPIOS, JTDSPIOR, JTMBCAL, JTDSPICL, SAEC, SPAR, JTNITCCL, JTOPNALL, JTACCTCK, JTDOWN, JTBLDDAT, ATTACH, JTIME, FREEMAIN, STIMER, ABEND

Program Logic: The address of the parm field from the execute card is received via the argument list and saved in a local area.

The basic system's area (JTRCBLKS) needed for overall system control is brought into the region, in the form of a control section (CSECT), by issuing a LOAD macro. The address of the region control block (RCB) is saved in a local area. The RCB is the primary control area and it contains pointers to the other basic system control areas.

A special module (JTBLDDT), which generates the data definition table (DDT) is brought into core by issuing a LOAD macro. The address of the region control flags (RCF) and a local area for use as the (DDT) is passed to JTBLDDT. Upon return, JTBLDDT is released from core by issuing a DELETE macro.

An area of core is reserved for use as the parm control block (PCB) by issuing a GETMAIN. The PCB initialization module (JTBLDPCB) is brought into core by issuing a LOAD macro. Addresses to the parm field from the execute card and to the PCB area is passed to JTBLDPCB. When JTBLDPCB is complete it is released from core by issuing a DELETE macro.

The applicable JOS control data sets is then made available by issuing an OPEN macro. The queue data set is always made available and the communication data set is opened in all cases except for batch mode jobs.

The function control list (FCL) is then initialized by getting the function control information from the queue data set by issuing READ and WAIT macro instructions.

All resident modules are brought into the region by issuing LOAD macro instructions. Control is passed to the FORTRAN input/output interface module (JIBCOM) in order to resolve the entry point addresses of all control sections within the FORTRAN input/output module (JIBCOM1). Other resident modules, as listed in the resident module list (RML), are set up in core. Initialization of the data manager is accomplished by providing core space for buffers, and a block of records on a direct access data set (PATH). This information is passed to the data manager through its initialization entry point (BNAMIN).

A major group of basic control blocks for each terminal is initialized. The number of terminals and identification of each is determined by the data definition table (DDT). Two load modules, (JTCBLKS1, JTCBLKS2) each containing a logical set of control blocks, is brought into core to make up the major group for each terminal. Each individual control area is initialized with the associated terminal identification, addresses and special data as applicable. The address of the appropriate terminal input/output module is saved in the associated control block. Only one type of input/output is provided in the batch mode, whereas in the non-batch mode, there may be any combination of I/O for 2260 local, 2260 remote or simulator (card reader and printer). The appropriate data control block (DCB) is made available for use by issuing an OPEN macro instruction.

Additional initialization is accomplished by invoking the following modules:

JTOPNALL - Open all standard data sets.

JTACCTCK - Check status of accounting data set.

JTDOWN - Provide accounting record of inactive system time.

JTBLDDAT - Build dynamic allocation table (DAT).

A time logging subtask (JTTIME) is created by issuing an ATTACH macro instruction.

Control is returned to the monitor through standard return linkage.

JOSHUA DPSTM-500	Title Module: JTINIT	Vol. IX	Page E.1.303
		Rev. 1	Date 6/73

Referenced By: JTMON
Language: Assembler
Author: R. L. Boyce, Jr.

JOSHUA DPSTM-500	Title Module: JTINIT	Vol. IX	Page E.1.304
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JOSHUA

DPSTM-500

Title

Module: JTINRDR

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E.1.305

Rev.

1

Date

6/73

Purpose: To present JCL cards to HASP.

Attribute: Nonreusable

JOS Main Program Name: JTINRDR

<u>Arguments:</u>	<u>Parameter</u>	<u>Type</u>	<u>Description</u>
	CCB	D	CCBMCB - Monitor Control Block

External References: GETMAIN, FREEMAIN, SVC 252

Data Sets: Communication Data Sets.

Program Logic: The address of the communication control block (CCB) is received via the argument list. The communication data set is read via BALR to RPAGE. If it is an holdqueue job, an appropriate message is put into the buffer and a return is issued; otherwise, the job card has critical information restored and, if protection is needed, it is set up. Each card is sent to HASP. After going through the entire job's JCL, a message as to the HASP job number is moved into the buffer and a return is issued.

Terminating Conditions: The module will terminate with an appropriate code upon detecting a protection violation.

Referenced By: JTMON

Language: Assembler

Author: W. H. Brotherton, Jr.

JOSHUA

DPSTM-500

Title

Module: JTINRDR

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JOSHUA

DPSTM-500

Title

Module: JTINRDRB

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E.1.309

Rev.

1

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Purpose: To present hold queue data set JCL to HASP.

Attribute: Nonreusable

JOS Main Program Name: JTINRDRB

Communication Area: DCB for Hold Queue Data Set.

External References: OPEN, READ, WAIT, SVC 252, WRITE, CLOSE, WTO, ABEND

Data Sets: Hold Queue Data Set.

Program Logic: The hold queue data set is OPENED and the hold queue control record is READ. If there aren't any records in the queue, a message indicating this is put to the operator via the WTO macro; otherwise, the hold queue is READ and presented to HASP via SVC 252. There are two cards per record. After presenting the last card of the last record, the end of file card is presented to HASP and the hold queue control record is reset and written out. The data set is the CLOSED and a return is issued.

Terminating Conditions: The module will ABEND when an I/O error has been encountered.

Language: Assembler

Author: W. H. Brotherton, Jr.

JOSHUA DPSTM-500	Title Module: JTINRDRB	Vol. IX	Page E.1.312
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JOSHUA

DPSTM-500

Title

Module: JTINRDRP

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1

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6/73

Purpose: To initiate the job that gives hard copy images of requested terminal displays.

Attribute: Nonreusable

JOS Main Program Name: JTINRDRP

<u>Arguments:</u>	<u>Parameter</u>	<u>Type</u>	<u>Description</u>
	CCB	D	CCBMCB - Monitor Control Block CCBBADGE - User badge number CCBCC - Cost code.

Communication Area: DCB for Print-Page Data Set (FT77F001).

External References: GETMAIN, FREEMAIN, OPEN, READ, CHECK, CLOSE, WAIT, SVC 252

Data Sets: Print-Page Data Set (FT77F001).

Program Logic: The address of the CCB is received via the argument list. If there is not a display buffer (MCBBUFFG), a GETMAIN is issued for one and it is blanked. The print-page data set is OPENED. A test is made to see if there are any records to print (WCBPRTSV). If there are none, a code is set up and a return issued. The starting record is then calculated and the total pages to be printed are added to a total field (WCBPRTPG). The job card, execute card, and route card (if necessary) are then built. If the user has indicated that the records are to be punched (PUNCH is in name 2 field), the correct module to do this is set up. If protection of the records is needed, the appropriate parameters are set. The job cards are then sent to HASP via SVC 252. After the JCL is sent, the records are READ and are sent to HASP as twelve cards per record until all records have been sent. The end of file card is sent as the last card. A message telling the HASP job number is then set up in the buffer, the data set is closed, and a return is issued.

Referenced By: JTMON

Language: Assembler

Author: W. H. Brotherton, Jr.

'HASP ROUTINE':

JOSHUA

DPSTM-500

Title

Module: JTINRDRX

Vol.

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E.1.319

Rev.

1

Date

6/73

Purpose: To present card images to HASP.

Attribute: Nonreusable

JOS Main Program Name: JTINRDRX

<u>Arguments:</u>	<u>Parameter</u>	<u>Type</u>	<u>Description</u>
	CCB	D	CCBMCB - Monitor Control Block

External References: GETMAIN, FREEMAIN, SVC 252

Data Sets: Communication Data Set

Program Logic: The address of the communication control block (CCB) is received via the argument list. A page of the communication data set is read via BALR to RPAGE. The card images are presented to HASP via SVC 252 one card at a time with there being ten cards to a page. Cards are presented until an end of file card image is found or until all pages of the communication data set have been presented. At this point the end of file card is presented, a Hasp job number is presented, and a return is issued.

Referenced By: JTMON

Language: Assembler

Author: R. L. Boyce, Jr.

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		Rev. 1	Date 6/73

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JOSHUA

DPSTM-500

Title Module: JTJERRIT

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Rev. 1	Date 6/73

Purpose: To write JOSHUA system error message to the job data set.

Attribute: Nonreusable

JOS Main Program Name: JTJERRIT

Arguments:

<u>Parameter</u>	<u>Type</u>	<u>Description</u>
CCB	D	CCBMCB - Monitor Control Block \$CBMODE - Monitor Mode Flag \$CBERRN - Error Number

External References: GETMAIN, FREEMAIN, LOAD, JIBCOM, LINK, JERR

Program Logic: The address of the CCB is received via the argument list. If the terminal mode is indicated, a return is issued. The completion code (WCBECB) is checked for success or for the general message code; if either of the two is indicated, a return is issued. If the program number is not equal to zero, a return is also issued. If the completion code was from OS, a message along with the code is set up in the JERR argument list; otherwise, only the code is set up. Next, the LOAD macro is issued for JIBCOM. The IBCOM initialization address is picked up from JIBCOM and linked. DEFINE is linked to next followed by a link to JERR. There is a link to the STOP routine afterwards. Then a return is issued.

Referenced by: JTMON

Language: Assembler

Author: W. H. Brotherton, Jr.

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JOSHUA

DPSTM-500

Title

Module: JTLOGBUF

Vol.

IX

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E.1.327

Rev.

1

Date

6/73

Purpose: To build the 'signon' frame in the display buffer.

Attribute: Nonreusable

JOS Main Program Name: JTLOGBUF

Arguments:

<u>Parameter</u>	<u>Type</u>	<u>Description</u>
CCB	D	CCBMCB - Monitor Control Block
		\$CBVERFY - Verify Flag
		\$CBSECOB

External References: GETMAIN, FREEMAIN

Program Logic: The address of the CCB is received via the argument list. The appropriate flags in the CCB, CCT, and WCB are reset. The paging control table area (CCTPCT) is released (if not already released) via the FREEMAIN macro. The 'signon' frame is then moved into the display buffer. A return is then issued.

Referenced By: JTMON

Language: Assembler

Authors: R. L. Boyce, Jr., W. H. Brotherton, Jr.

Title	Module: JTLOGIN	Vol.	Page
		IX	E.1.329
Rev.		1	Date
			6/73

Purpose: To collect the terminal user's accounting data.

Attribute: Nonreusable

JOS Main Program Name: JTLOGIN

Arguments:

<u>Parameter</u>	<u>Type</u>	<u>Description</u>
CCB	D	CCBMCB - Monitor Control Block
		\$CBVERFY - Verify Flag
		CCBSINON - 'Signon' Flag

External References: GETMAIN, FREEMAIN, WRITE, WAIT, TIME

Data Sets: Control and Communication Data Set.

Objective: To provide the following controls of user's initial information:

- (1) Saving accounting data.
- (2) Initialize applicable control flags.

Program Logic: The address of the CCB is received via the argument list. If a skip of the system message is desired (indicates via 'S' in proper location), the next subfunction is set to blank. The accounting record information is saved next. It consists of badge number, cost code, time on, date on, terminal unit, and various flags. It is stored via a WRITE to a save record (record number QCBASAV+WXTDSRF6). A return is then issued. If an I/O error occurs, the reset function flag is set.

Terminating Conditions: If an I/O error occurs, the 'reset function' flag is set.

Referenced By: JTMON

Language: Assembler

Authors: W. H. Brotherton, Jr., R. L. Boyce, Jr.

Purpose: To deactivate the terminal session.

Attribute: Nonreusable

JOS Main Program Name: JTLOGOUT

<u>Arguments:</u>	<u>Parameter</u>	<u>Type</u>	<u>Description</u>
	CCB	D	CCBMCB - Monitor Control Block
			CCBJOB - Job data set name
			CCBUSER - User data set name
			CCBBADGE - User's badge number
			CCBCC - Cost-code

External References: GETMAIN, FREEMAIN, READ, WAIT, WRITE, TIME

Data Sets: Accounting Data Set;
Control and Communication Data Set.

Objective: The module has the following objectives:

- (1) To complete the accounting record and store it in the accounting data set.
- (2) To reset control areas to inactive status.
- (3) To set up sign-in function.

Program Logic: The address of the communication control block is received via the argument list. The basic accounting record (QCBASAV + WXTDSRF6) is read via the READ macro. The accounting information is then completed by obtaining the elapsed time, wait time, and the number of function request for each category. The BNAM statistics table (BST) is updated at this time also. The accounting data set is then set up and a WRITE is issued on the accounting record. The accounting control record is then updated. The sign-in (SI) function is then set up and the 'reselect function' flag turned on. The job name, user data set name, badge number, and cost-code are set to an inactive status. The invalid class count and function work area (FWK) are reset. A return is then issued.

Terminating Conditions: The module will terminate with an appropriate code upon an I/O error.

Referenced By: JTMON

Language: Assembler

JOSHUA DPSTM-500	Title Module: JTLOGOUT	Vol. IX	Page E.1.332
		Rev. 1	Date 6/73

Author:

W. H. Brotherton, Jr. and R. L. Boyce, Jr.

JOSHUA DPSTM-500	Title Module: JTLOGOUT	Vol. IX	Page E.1.334
		Rev. 1	Date 6/73

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JOSHUA

DPSTM-500

Title Module: JTLOGSV

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Rev.
1

Date
6/73

Purpose: To transfer on-line accounting data to off-line storage (tape).

Attribute: Nonreusable

JOS Main Program Name: JTLOGSV

Communication Area: DCB for on-line accounting data set.
DCB for off-line accounting data set.
DCB for SYSOUT.

External References: OPEN, READ, CHECK, WRITE, PUT, CLOSE.

Data Sets: Accounting Data Set (on-line).
Accounting Data Set (off-line).
SYSOUT.

Program Logic: The accounting data set, the printer, and an accounting data tape are opened by issuing the OPEN macro instruction. The accounting control record is read and the transfer-data flag is turned off before writing it out. An input area is then set up. A heading is then written to SYSOUT by issuing a PUT macro instruction (heading will be put out every eighteen records as long as there is data). A record is then READ from the accounting data set and written (PUT) to the accounting data tape. After editing the data, it is written to SYSOUT. When all records have been read, the accounting data set control record is then reset to indicate records have been transferred and written out. The tape, printer, and accounting data set are then closed by issuing the CLOSE macro instruction. A return is issued.

Referenced By: JTACCTCK

Language: Assembler

Author: W. H. Brotherton, Jr.

JOSHUA

DPSTM-500

Title Module: JTMON

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Rev. 1	Date 6/73

Purpose: JOSHUA SYSTEM CONTROL

Attribute: Nonreusable

Argument:

<u>Parameter</u>	<u>Type</u>	<u>Description</u>
PRM	H	Number of bytes in the parm field.
	C	Information up to 100 bytes.

Communication Areas: RCB, RCL, RES, RCF, MCB, CCB, MCF, ARG, FCT, WCB, BCL.

External References: JTINIT, LOAD, DELETE, STIMER, GETMAIN, FREEMAIN, JTBLARG, ATTACH, LINK, WAIT, DETACH, ABEND

Objective: To provide the following services:

1. Control the usage of serially reusable resources.
2. Control the creation and deletion of subtasks.

Program Logic: The address of the parm field from the execute card is received via the argument list and saved in a general purpose register (PRM).

Initialization of the region is accomplished by invoking the region initialization module (JTINIT). The address of the region control block (RCB) is returned upon completion of the region initialization. With this base address all resident modules or control blocks can be located. In addition to the control areas used in region communication there is also a set of control blocks associated with each terminal. The monitor control block (MCB) is the basic control area for each terminal and it contains addresses of all the other major control blocks. A base address is set up for each control address list (RCLMCBL, RCLECB, RCLTCBL). The monitor control block list (RCBMCBL) is a list of addresses, each pointing to a monitor control block (MCB). The event control block list (RCLECB) is a list of addresses, each pointing to an event control block (ECB). The ECB is used to indicate the status of a subtask. The task control block list (RCLTCBL) is a list of addresses, each pointing to the task control block (TCB) of a subtask. The relative position within each of these lists are associated with the same terminal (e.g., the first address in the RCLMCBL, the first address in the RCLECB and the first address in the RCLTCBL point to the areas associated with the first terminal). A single index is then used in transacting a processing cycle for each terminal.

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		Rev. 1	Date 6/7

The normal processing cycle begins by invoking the next subfunction ready to be executed for each terminal. An index is set to represent the beginning point of the control block lists. If the previous subfunction associated with the terminal is offline or is still active the index is set to the next point in the control block lists. If the next subfunction is awaiting execution the control flags in the associated entry of the function control table is checked for various requests and conditions. If a module length request is specified, a check is made to determine if enough core space is available. With core space available a further check is to determine if any serially reusable resources are requested. If any resources are requested they are assigned to this terminal.

Should the subfunction have need, a special argument list is generated by passing control to the appropriate module (JTBLARG). The subfunction is then invoked by issuing the ATTACH macro and the address of the TCB for the subtask is saved in the task control block list (RCLTCBL). Processing then continues by setting the index to the next point in the control block lists and repeating the above process cycle. In some cases the subfunction must be executed under the control of the monitors TCB. When this is the case the subfunction is invoked by issuing the LINK macro.

Upon reaching the end of the control block lists the monitor waits for completion of one or more subfunctions by issuing the WAIT macro instruction.

After completion of at least one subfunction control is returned to the monitor by the OS WAIT facility. The monitor then scans the control lists and deactivates all completed subfunctions by issuing the DETACH macro and releasing any serially reusable resources that were assigned.

A check is made to see if job termination has been requested. If so the appropriate completion code is set and the job step ends. Else, normal processing continues.

The control lists are again scanned and if completion is normal, a pointer to the next subfunction is set. If the completed subfunction was the last one in the function list a request is set for execution of the SElect function.

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When the subfunction completes abnormally the completion code is saved and request is set for execution of the ABend function. In each of the above cases the processing cycle is restarted.

Language:

Assembler

Author:

R. L. Boyce, Jr

JOSHUA

DPSTM-500

Title

Module: JTNITCCL

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Rev. 1	Date 6/73

Purpose: To build the communication control list (CCL).

Attribute: Nonreusable

JOS Main Program Name: JTNITCCL

Program Logic: The program is entered via entry name. The communication data set is then set up for each terminal via a control list. See CCL control block in Control Block Section.

Referenced By: JTINIT

Language: Assembler

Author: R. L. Boyce, Jr.

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JOSHUA

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Title

Module: JTNITRML

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Purpose:

To build the resident module list (RML).

Attribute:

Nonreusable

JOS Main Program Name:

JTNITRML

Program Logic:

The program is entered via entry name. The resident module list is then set up. See RML control block in Control Block Section.

Referenced By:

JTINIT

Language:

Assembler

Author:

R. L. Boyce, Jr.

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JOSHUA

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Title

Module: JTOC1

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1

Date

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Purpose:

To produce a system OC1abend.

Attribute:

Nonreusable

JOS Main Program Name:

JTOC1

Program Logic:

The program is entered via entry name. The next instruction is not operational, thus an system OC1 occurs.

Referenced By:

JTMON

Language:

Assembler

Author:

R. L. Boyce, Jr.

ENTRY

NEXT INSTRUCTION
IS NOT
OPERATIONAL -
PRODUCES AN
OC1 SYSTEM CODE.

JOSHUA

DPSTM-500

Title

Module: JTOPNALL

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1

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Purpose: To open the data sets specified.

Attribute: Nonreusable

JOS Main Program Name: JTOPNALL

<u>Arguments:</u>	<u>Parameter</u>	<u>Type</u>	<u>Description</u>
	RCB	D	Region Control Block
	JAM	F	Joshua Access Method Address

Program Logic: The addresses of the region control block (RCB) and the Joshua Access Method (JAM) routine are received via the argument list. The task input/output table is set up and data definition entries are set up. If it is not a 'FT' direct access data set, the next entry is set up. It goes through the entire list checking and upon finding an entry, a link is made to the direct access I/O routine to open it. A link is also issued to JAM if JAM is available. At the end of the list a return is issued.

Referenced By: JTMON

Language: Assembler

Author: W. H. Brotherton, Jr., R. L. Boyce, Jr.

JOSHUA

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Title Module: JTPAGER - (Batch)

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Purpose: To provide a dummy module.

Attribute: Nonreusable

JOS Main Program Name: JTPAGER

Program Logic: The program is entered via entry name and a branch is
taken to register 14.

Referenced By: JTMON

Language: Assembler

Author: R. L. Boyce, Jr.

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Title	Module: JTPAGER (Terminal)	Vol.	Page
		IX	E.1.353
Rev.	1	Date	6/73

Purpose: To control the transfer of data between the communication data set and the display terminal.

Attribute: Reenterable

JOS Main Program: JTPAGER

Arguments:

<u>Parameter</u>	<u>Type</u>	<u>Description</u>
CCB	D	CCBMCB - Monitor Control Block (MCB)

External References: GETMAIN, FREEMAIN, RPAGE, WPAGE, JTDSPLY

Data Sets: Communication Data Set

Objective: To provide the facilities to:

- (1) Pass control to the input/output handler for transmitting data to and from the communication data set.
- (2) Pass control to the terminal input/output handler for display and introduction of data.

Program Logic: The address of the communication control block (CCB) is received via the argument list and the addressability of other major control blocks is established. If the bypass flag is on or if no data is in the communication data set, control is returned via a normal exit.

The paging operation is initialized by setting the appropriate flags in the communication control table (CCT) and by saving the title line from the display buffer (MCBBUFFG). The paging manipulation continues by passing control to the communication input handler (RPAGE) in order to get the next page into the display buffer. The page number is set up in the display buffer and control is passed to the terminal display module (JTDSPLY) for transmitting the page of data to the terminal and transmitting the reply from the terminal back to the display buffer.

If any request was made by the user, the appropriate flags are set in the communication control table (CCT). If the request is end the function or end the paging, control is returned via the normal exit. When adding or deleting a page is requested, a paging control table (PCT) is used for manipulating the pointers to the pages. At the first add or delete request, the PCT area is obtained from free core by issuing a GETMAIN macro. If the number of pages reaches ZERO, the PCT is released by issuing a FREEMAIN macro. If

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Module: JTPAGER (Terminal)

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in the read only mode or if a request is made for a special page, processing is recycled by reading the requested page or the next sequential page. When in the update mode, control is passed to the communication output handler (WPAGE) for writing the contents of the display buffer to the requested page within the communication data set. Processing continues through this cycle until the last page is reached, after which, appropriate flags are set in the communication control table (CCT) and control is returned via a normal exit.

Referenced By:

JTMON

Language:

Assembler

Author:

R. L. Boyce, Jr.

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JOSHUA

DPSTM-500

Title Module: JTPASWRD

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1

Date
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Purpose: To control unauthorized update of a user data set.

Attribute: Nonreusable

JOS Main Program Name: JTPASWRD

<u>Arguments:</u>	<u>Parameter</u>	<u>Type</u>	<u>Description</u>
	CCB	D	CCBMCB - Monitor Control Block
			CCBJOB - Job data set name
			CCBBADGE - User badge number
			CCBUSER - User data set name
			CCBCC - Cost-code
			CCBDS1 - CCBDS4 - Default data sets
			CCBSF - Protection code

External References: GETMAIN, FREEMAIN, LOAD, JTSECLOG, READ, WAIT

Data Sets: Communication Data Set.

Program Logic: The address of the CCB is received via the argument list. A check is made to see if the sign-on data is valid; if it is invalid, the "reset function" flag is set and a return issued. The job name, badge number, user data set, and cost-code are set up in their respective places in the CCB. The data set read hierarchy is set up. The classification identification block is read next via the READ macro. If the protected file is desired, a check is made on the file identification number. If it is incorrect, the protection violation count field for the terminal is upped, and if its count is greater than three, JTSECLOG is LOADED and BALR'ed to handle the violation before resetting the function and returning. If the count was less than three, the function is reset and a return is issued. If the file ID was correct, the file code is then checked and stored in the CCB. If the protected file was not desired or if it and its code was correct, the user ID is checked against the one issued for the user. If it is wrong, the protection violation procedure is gone through; otherwise, a return is issued.

Terminating Conditions: The module will terminate upon obtaining an I/O error. An appropriate message will be moved to the display buffer.

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Referenced By:

JTMON

Language:

Assembler

Author:

W. H. Brotherton, Jr. and R. L. Boyce, Jr.

JOSHUA

DPSTM-500

Title

Module: JTPRNTRP

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		6/73

Purpose: To handle procedure activity.

Attribute: Nonreusable

JOS Main Program Name: JTPRNTRP

<u>Arguments:</u>	<u>Parameter</u>	<u>Type</u>	<u>Description</u>
	CCB	D	CCBMCB - Monitor Control Block
	OPTION	F	Option - 0 - Set procedure active 1 - Reset procedure active >1 - Set procedure complete

External References: GETMAIN, FREEMAIN

Objective: The following are the objectives of the module:

- (1) To set procedure inactive.
- (2) To reset procedure active.
- (3) To set procedure complete.

Program Logic: The address of the communication control block (CCB) and the options are received via the argument list. If the option is zero, the procedure is set inactive by zeroing WXTPFLAG. If the option is one, WXTPFLAG is set to two - thus activating procedure. If the option is greater than one, the procedure is set complete and the arguments are blanked out. A return is issued after satisfying the option request.

Referenced By: JTMON

Language: Assembler

Author: R. L. Boyce, Jr.

JOSHUA

DPSTM-500

Title

Module: JTPRTSV

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Purpose:

To save the display after a hard copy image has been requested.

Attribute:

Nonreusable

JOS Main Program Name:

JTPRTSV

Arguments:

Parameter

Type

Description

CCB

D

CCBMCB - Monitor Control Block

Communication Area:

DCB for FT77F001

External References:

GETMAIN, FREEMAIN, OPEN, WRITE, CHECK, CLOSE

Data Sets:

Print Page Data Set (FT77F001).

Program Logic:

The address of the CCB is received via the argument list. The print page data set is opened via the OPEN macro. The relative starting record (QCBPGPR + WXTDSRF6) is set up. The record limit per function mode (QCBPGPRL) is compared against the pages already accumulated (WCBPRTSV). If it is over the limit, a code is set up and a return is issued; otherwise, the display is written to the relative record in the data set. After the write the record count is updated, the data set is closed, and a return is issued.

Terminating Conditions:

If the record limit is met, a code indicating that the print data set is full is put into the buffer and a return is issued.

Referenced By:

JTDSPIOS, JTDSPIOL, JTDSPIOR

Language:

Assembler

Author:

W. H. Brotherton, Jr.

JOSHUA

DPSTM-500

Title Module: JTPUNCHQ

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Purpose: To print and punch the hold queue data set.

Attribute: Nonreusable

JOS Main Program Name: JTPUNCHQ

Communication Area: DCB for hold queue data set
DCB for printer (SYSOUT)
DCB for punch

External References: OPEN, READ, CHECK, PUT, CLOSE

Data Sets: Hold queue data set
SYSOUT data set
Punch data set

Objective: The objective is to give operations a printed and punched output of the hold queue data set.

Program Logic: The hold queue, printer, and punch data set are opened via the OPEN macro. The hold queue control record is read and, if there are records in the queue, the appropriate areas are set up. If there are no records, the data sets are closed and a return is issued. If there are some, they are read and PUT to the SYSOUT and PUNCH data set. After all reads are set up, the data sets are closed and a return is issued.

Language: Assembler

Author: W. H. Brotherton, Jr.

Restrictions: Module is restricted to system and operation personnel usage.

JOSHUA

DPSTM-500

Title Module: JTQCLEAN

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Purpose: To clean up accounting area or reader hold queue area.

Attribute: Nonreusable

JOS Main Program Name: JTQCLEAN

Arguments:

<u>Parameter</u>	<u>Type</u>	<u>Description</u>
CCB	D	CCBMCB - Monitor Control Block

External Reference: GETMAIN, FREEMAIN, OPEN, READ, CHECK, WRITE, CLOSE

Data Sets: Control and Communication Data Set.

Program Logic: The address of the CCB is received via the argument list. The control and communication data set is OPENED. The name 1 argument is then examined to see which clean up is desired. If 'HOLDQUE' is indicated, the control record for the reader hold queue records is set up; otherwise, the accounting control record is set up. The appropriate record is then read by issuing the READ macro. After reading, the appropriate pointer is reset and the record is written out. The data set is then CLOSED. A return is issued.

Referenced By: JTMON

Language: Assembler

Author: W. H. Brotherton, Jr.

JOSHUA
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Title

Module: JTQCLEAN

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JOSHUA

DPSTM-500

Title Module: JTQRESET

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Rev.
1

Date
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Purpose: To clean-up hold queue data set.

Attribute: Nonreusable

JOS Main Program Name: JTQRESET

Communication Area: DCB for hole queue data set.

External Reference: OPEN, READ, WAIT, WTOR, WRITE, CLOSE, WTO, ABEND

Data Sets: Hole Queue data set.

Objective: The objective of this module is to clean-up the hold queue data set (reset proper pointers) if the operator specifies that it has been punched or released.

Program Logic: The hold queue data set is opened via the OPEN macro and the control record is READ. If there are no records in the queue, a message is sent to the operator (WTO) indicating that such is the case. If there are some records in the queue, a WTOR is issued that asks if the hold queue has been punched or released into the system — this is to prevent accidental clean-up. If the reply is yes, the pointer is reset and written out; otherwise, the data set is closed and a return is issued.

Terminating Conditions: If an I/O error occurs, an ABEND is issued.

Language: Assembler

Author: W. H. Brotherton, Jr.

Restrictions: Module is restricted to system and operator personnel usage.

JOSHUA

DPSTM-500

Title	Module: JTRCBLKS	Vol. IX	Page E.1.373
		Rev. 1	Date 6/73

Purpose: To build the region control block (RCB).

Attribute: Nonreusable

JOS Main Program Name: JTRCBLKS

Program Logic: The module is entered via the entry point. The Region Control Block (RCB) is then built. See the Control Block Section for RCB and the control block addresses it contains.

Referenced By: JTINIT

Language: Assembler

Author: R. L. Boyce, Jr.

JOSHUA DPSTM-500	Title Module: JTRCBLKS	Vol. IX	Page E.1.374
		Rev. 1	Date 6/73

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JOSHUA

DPSTM-500

Title Module: JTREQDMP

Vol. IX	Page E.1.375
Rev. 1	Date 6/73

Purpose: To set proper flag for monitor dump.

Attribute: Nonreusable

JOS Main Program Name: JTREQDMP

<u>Arguments:</u>	<u>Parameter</u>	<u>Type</u>	<u>Description</u>
	CCB	D	CCBMCB - Monitor Control Block

External References: GETMAIN, FREEMAIN

Program Logic: The address of the communication control block (CCB) is received via the argument list. The monitor dump flag (MCFMDUMP) is set and a return is issued.

Referenced By: JTMAN

Language: Assembler

Author: R. L. Boyce, Jr.

JOSHUA

DPSTM-500

Title	Module: JTRLOGIC	Vol. IX	Page E.I. 377
		Rev. 1	Date 6/73

Purpose: To alter the flow of a function when applicable.

Attribute: Nonreusable

JOS Main Program Name: JTRLOGIC

<u>Arguments:</u>	<u>Parameter</u>	<u>Type</u>	<u>Description</u>
	CCB	D	CCBMCB - Monitor Control Block

External References: GETMAIN, FREEMAIN

Program Logic: The address of the communication control block (CCB) is received via the argument list. The function logic flag (FCTLOGIC) is checked. If it is on, the 'restart I/O' flag (CCTRSTRT) is set on. Further if the modify flag (CCTMODFY) is not on, the function reset flag is checked and if the reset flag is on, the subfunction pointer is set to beginning of function list, else, the function list is set up for termination. If the modify flag had been on, it would have been turned off and a return would have been issued.

If the function logic flag is off, the arguments are checked. If there is a name 1, a return is issued; otherwise, one subfunction is skipped and name two is moved to name one before issuing a return.

Referenced By: JTMON

Language: Assembler

Author: R. L. Boyce, Jr.

JOSHUA

DPSTM-500

Title Module: JTRSTPGE

Vol. IX	Page E.1.379
Rev. 1	Date 6/73

Purpose: To restart at the beginning of communication data set.

Attribute: Nonreusable

JOS Main Program Name: JTRSTPGE

Arguments:

<u>Parameter</u>	<u>Type</u>	<u>Description</u>
CCB	D	CCBMCB - Monitor Control Block

Program Logic: The address of the CCB is received via the argument list. The 'restart I/O' flag (CCTRSTRT) is turned on and the 'EOD' and 'EOF' flags are turned off. A return is issued.

Referenced By: JTMON

Language: Assembler

Author: W. H. Brotherton, Jr.

JOSHUA

DPSTM-500

Title Module: JTSCRTCH

Vol. IX

Page
E.1.381

Rev.
1

Date
6/73

Purpose: To scratch the scratch data set and the job data set (if applicable).

Attribute: Nonreusable

JOS Main Program Name: JSCRTCH

<u>Arguments:</u>	<u>Parameter</u>	<u>Type</u>	<u>Description</u>
	CCB	D	CCBMCB - Monitor Control Block
			CCBSCRTH - Scratch Data Set Name
			CCBJOB - Job Data Set Name

External References: GETMAIN, FREEMAIN, LINK, SCRATCH

Program Logic: The address of the CCB is received via the argument list. If there is a scratch data set, it is scratched via a LINK to SCRATCH. If there is a job data set with disposition of 'TMP' (temporary), it is scratched in the same manner. A return is then issued.

Referenced By: JTMON

Language: Assembler

Author: W. H. Brotherton, Jr.

'LNKSCTH' ROUTINE:

JOSHUA

DPSTM-500

Title Module: JTSECLOG

Vol. IX	Page E.1.383
Rev. 1	Date 6/73

Purpose: To log out a protection violation.

Attribute: Nonreusable

JOS Main Program Name: JTSECLOG

<u>Arguments:</u>	<u>Parameter</u>	<u>Type</u>	<u>Description</u>
	CCB	D	CCBMCB - Monitor Control Block
			CCBBADGE - User badge number
			CCBUSER - User data set
			CCBCC - Cost-code

Communication Area: DCB for Accounting Data Set (JOSQUEUE)

External References: GETMAIN, FREEMAIN, OPEN, READ, CHECK, WRITE, CLOSE

Data Sets: Accounting Data Set.

Program Logic: The address of the CCB is received via the argument list. The accounting data set is OPENED. The accounting control record is READ and the appropriate record is set up. After this the control record is updated and written out. The protection violation record is then built; it contains badge number, user data set, cost code, date on, and various violation flags. It is then written out via the WRITE macro. A CLOSE is issued on the data set and then a return is issued.

Referenced By: JTPASWRD

Language: Assembler

Author: W. H. Brotherton, Jr.

JOSHUA

DPSTM-500

Title Module: JTSELBUF

Vol. IX

Page
E.1.385

Rev.

1

Date

6/73

Purpose: To initialize the select frame.

Attribute: Nonreusable

JOS Main Program Name: JTSELBUF

<u>Arguments:</u>	<u>Parameter</u>	<u>Type</u>	<u>Description</u>
	CCB	D	CCBMCB - Monitor Control Block
			CCBRF - Read protection flag
			\$CBMONF - BNAM flag
			CCBJOB - Job data set name
			CCBUSER - User data set name

External References: GETMAIN, FREEMAIN

Program Logic: The address of the communication control block (CCB) is received via the argument list. A GETMAIN is issued for the display buffer if there is not one; the buffer is then blanked. A check is then made to see if any data sets are allocated to the particular terminal; if so, a code is set up such that the module terminates and the data sets are deallocated. If there are no data sets allocated to the terminal, the select frame is moved into the buffer, protection and BNAM flags are reset, any terminal messages are moved into the buffer, and procedure fields are set. A return is then issued.

Terminating Conditions: The module will terminate with an appropriate code if data sets are left allocated to the terminal upon entry for another function selection.

Referenced By: JTMON

Language: Assembler

Author: R. L. Boyce, Jr.

JOSHUA

DPSTM-500

Title Module: JTSELECT

Vol. IX Page
E.1.387

Rev. Date
1 6/73

Purpose: To activate a function.

Attribute: Nonreusable

JOS Main Program Name: JTSELECT

<u>Arguments:</u>	<u>Parameter</u>	<u>Type</u>	<u>Description</u>
	CCB	D	CCBMCB - Monitor Control Block

External References: GETMAIN, FREEMAIN, TIME

Program Logic: The address of the communication control block (CCB) is received via the argument list. The function control list (FCL) is picked up from the region control block (RCBFCL) and the requested function is checked for in the list. If the requested function is not found, 'INVALID' is moved into the function field (WCBFNM), the 'reset function' flag (MCFRSETF) is set, and a return is issued. If the function is found in the list, the offline flag is checked (FCLFCTOF). If the function is offline, 'OFFLINE' is moved into the function field and the same procedure for an invalid function is followed; otherwise, the restrictions on the function are determined. If the function is restricted to the user, the invalid procedure is followed; otherwise, function accounting information is set up. The module that will handle the desired function is then set in the function control table. The 'reset function' flag is then set and a return is issued.

Referenced By: JTMON

Language:= Assembler

Author: W. H. Brotherton, Jr. and R. L. Boyce, Jr.

JOSHUA

DPSTM-500

Title

Module: JTSELNIT

Vol.

IX

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E.1.389

Rev.

1

Date

6/73

Purpose: To initialize appropriate area at function selection time.

Attribute: Nonreusable

JOS Main Program Name: JTSELNIT

<u>Arguments:</u>	<u>Parameter</u>	<u>Type</u>	<u>Description</u>
	CCB	D	CCBMCB - Monitor Control Block
			CCBAPEND - Append flag

External References: GETMAIN, FREEMAIN

Program Logic: The address of the communication control block (CCB) is received via the argument list. The work control block (WCB) is set up and the function requested is set up (WCBFCTNM) and saved (WCBFNM). The name 1 and name 2 arguments are saved. The communication data set 'restart' flag, 'EOD' flag, and 'EOF' flag are reset. If there is a paging control table (PCT), it is freed up via the FREEMAIN macro. The work extension fields (WXT) are set to zeros. The append flag (CCBAPEND) is also reset. The procedure name is saved in the WXT area. A return is then issued.

Referenced By: JTMON

Language: Assembler

Author: R. L. Boyce, Jr.

JOSHUA

DPSTM-500

Title Module: JTSETLNK

Vol.	IX	Page
		E.1.391
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		6/73

Purpose: To indicate monitor to link to a module rather than attach.

Attribute: Nonreusable

JOS Main Program Name: JTSETLNK

<u>Arguments:</u>	<u>Parameter</u>	<u>Type</u>	<u>Description</u>
	CCB	D	CCBMCB - Monitor Control Block
			CCBUSER - User data set name

External References: GETMAIN, FREEMAIN

Program Logic: The address of the communication control block (CCB) is received via the argument list. The work control block (WCB) is set up and the third name in name 1 argument (WCBARG1) is checked to see if linking is necessary. If linking is not needed, a return is issued; otherwise, a check is made to see if the request has valid authorization. If the request is valid, the monitor link flag (MCFLINK) is set and a return is issued. If the request lacked valid authorization, a return code is set and a return is issued.

Terminating Conditions: Upon recognizing an unauthorized request for a monitor link, a return code is set up and a return is issued.

Referenced By: JTMON

Language: Assembler

Author: R. L. Boyce, Jr.

JOSHUA

DPSTM-500

Title Module: JTSETUSR

Vol. IX	Page E.1.393
Rev. 1	Date 6/73

Purpose: To set up particular user data set for read search hierarchy.

Attribute: Nonreusable

JOS Main Program Name: JTSETUSR

Arguments:

<u>Parameter</u>	<u>Type</u>	<u>Description</u>
CCB	D	CCBMCE - Monitor Control Block CCBDS2 - User Data Set

External References: GETMAIN, FREEMAIN

Program Logic: The address of the CCB is received via the argument list.
The desired user data set is picked up from the name 1 field (WCBARG1) and put into the CCBDS2 field. A return is issued.

Referenced By: JTMON

Language: Assembler

Author: R. L. Boyce, Jr.

JOSHUA

DPSTM-500

Title	Module: JTSHTB	Vol. IX	Page E.1.395
		Rev. 1	Date 6/73

Purpose: To pack a name string.

Attribute: Nonreusable

JOS Main Program Name: JTSHTB

<u>Arguments:</u>	<u>Parameter</u>	<u>Type</u>	<u>Description</u>
	CCB	D	CCBMCB - Monitor Control Block
	NAMES	D	Name string
	BUFFER	D	Display buffer

Program Logic: The address of the CCB, name string, and display buffer are received via the argument list. The double word argument names are moved to the buffer such that there is only a period between names. This is done for the name string. The end of a name string is recognized by HEX 5's. If no HEX 5's are reached, the routine will stop at the end of the buffer line. A return is issued after going through the names array.

Referenced By: JTMON

Language: Assembler

Author: R. L. Boyce, Jr.

JOSHUA

DPSTM-500

Title	Module: JTSHFTN	Vol. IX	Page E.1.397
		Rev. 1	Date 6/73

Purpose: To align information on a double word boundary.

Attribute: Nonreusable

JOS Main Program Name: JTSHFTN

<u>Arguments:</u>	<u>Parameter</u>	<u>Type</u>	<u>Description</u>
	CCB	D	CCBMCB - Monitor Control Block
			CCBRF - Read protection flag
			CCBNF - Write protection flag
			CCBCF - Communication protection flag

External References: GETMAIN, FREEMAIN

Objective: To align data name qualifiers on double word boundaries, set up number of qualifiers in argument one, and delimit each name with a double word of hex fives.

Program Logic: The address of the communication control block (CCB) is received via the argument list. The name fields are blanked first. Then the names, name 1 and name 2 string, are moved into the respective name 1 and name 2 area. A period in input separates one name from the next. Embedded blanks are allowed, but will not be part of name. Hex fives are moved into the last double word of each name string to signify a name field end. If too many qualifiers are encountered, a code is set up to denote this and a return is issued; a similar procedure is followed if a name qualifier is too long. The number of names in the name 1 field is kept and stored in the appropriate field. After setting the names up as double words, a check is made to see if protection is desired on any of the name strings (possibly a protected named data record). If protection features are indicated, the necessary fields are set. A return is then issued.

Terminating Conditions: The module will terminate with an appropriate code upon too many qualifiers or a qualifier having too many characters.

Referenced By: JTMON

Language: Assembler

Author: W. H. Brotherton, Jr. and R. L. Boyce, Jr.

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JOSHUA

DPSTM-500

Title Module: JTSNENQ

Vol. IX Page
E.1.401

Rev. 1 Date
6/73

Purpose: To generate scratch data set name and enq on it (if applicable).

Attribute: Nonreusable

JOS Main Program Name: JTSNENQ

<u>Arguments:</u>	<u>Parameter</u>	<u>Type</u>	<u>Description</u>
	CCB	D	CCBMCB - Monitor Control Block
			CCBSCRTH - Scratch Data Set Name

External References: GETMAIN, FREEMAIN, TIME, ENQ.

Program Logic: The address of the CCB is received via the argument list. If a scratch data set is requested, a scratch name is generated and an ENQ is issued on it. If the ENQ is unsuccessful, another name is generated, etc.; otherwise, a return is issued. If there had been no scratch data set requested, a return would have been issued.

ENQ Name: JOSYSTEM (Scratch data set name)

Referenced By: JTMON

Language: Assembler

Author: W. H. Brotherton, Jr.

JOSHUA

DPSTM-500

Title Module: JTSNOPEN

Vol. IX

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E.1.403

Rev.

1

Date

6/73

Purpose: To set up appropriate areas for a job.

Attribute: Nonreusable

JOS Main Program Name: JTSNOPEN

<u>Arguments:</u>	<u>Parameter</u>	<u>Type</u>	<u>Description</u>
	CCB	D	CCBMCB - Monitor Control Block
			\$CBTIMER - Timer option flag
			CCBDS1 - Data set default
			CCBDS2 - Data set default
			CCBDS3 - Data set default
			CCBDS4 - Data set default
			\$CBSF - Protection flag
			CCBSCRTH - Scratch data set name
			\$CBERRN - Error number

External References: GETMAIN, FREEMAIN, LOAD, JBREAD, LINK, SCRATCH, LINK, SUPSCRTH, ALLOCATE, WTO

Data Sets: Communication Data Set.

Objective: The module has several objectives:

- (1) Initialize function timing area and sets up default data sets.
- (2) Loads in card read routine and saves address.
- (3) Analyzes program as to CATEGORY =, DATASET =, or SCRATCH = input and sets up job accordingly.
- (4) Allocates scratch data set space (if applicable).
- (5) Allocates job data set space (if applicable).
- (6) Sets up timer option if requested.
- (7) Scratches all scratch data sets not in use.

JOSHUA DPSTM-500	Title Module: JTSNOPEN	Vol. IX	Page E.1.404
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Program Logic:

The address of the CCB is received via the argument list. The function timing work area (FWK) is obtained via the GETMAIN macro instruction. The timer option is set on if it is requested. The default data sets are set up within the CCB. The reader routine (JBREAD) is brought in by issuing the LOAD macro instruction. The input is checked for certain key words and their representation is set up; that is, CATEGORY = will indicate a protected run and the proper flags will be set. DATASET = will indicate an override is to be used for the data set hierarchy in module execution and SCRATCH = will indicate that a particular data set should be scratched. Each of these input requests are put into the display buffer and written to the communication data set via link to WPAGE. A LINK is then issued to SUPSCRTH to scratch all scratch data sets not in use. If a scratch data set has been requested, the scratch data set name (CCBSCRTH) is obtained and the space is allocated. The job data set (CCBJOB) space is also allocated if it is requested. The space requirements are obtained by a LINK to ALLOCATE. If there is an unsuccessful allocation, the error number is set up and an abnormal return is issued. If there is a data space error indicated, a message is also written to the operator by issuing a WTO. A return is issued upon completion of the allocation.

Terminating Conditions:

On an unsuccessful allocation of either the job or scratch data set, an error number and a program number is set up before the return is issued. If the allocation error indicates a data space problem, a message is written to the operator (WTO) as well as doing the other.

Referenced By:

JTMON

Language:

Assembler

Author:

W. H. Brotherton, Jr.

JOSHUA

DPSTM-500

Title	Module: JTSTATCK	Vol. IX	Page E.1.409
		Rev. 1	Date 6/73

Purpose: To keep job queue below maximum level.

Attribute: Nonreusable

JOS Main Program Name: JTSTATCK

<u>Arguments:</u>	<u>Parameter</u>	<u>Type</u>	<u>Description</u>
	CCB	D	CCBMCB - Monitor Control Block

External References: GETMAIN, FREEMAIN, SVC 252, WTO

Program Logic: The address of the communication control block (CCB) is received via the argument list. A test is made to see if this is the print-page (PR) function. If it is not the PR function, the execute function (EX) is assumed and a check is made to see if the job was a hold queue one. If it was not a hold queue job or if the PR function is indicated, the status of the job queue is obtained via SVC 252. If the number of jobs in the queue is less than 150, a return is issued; otherwise, a message is put out via a WTO stating that there are over 150 jobs in the HASP job queue.

If the number of jobs in the job queue is over 190, an appropriate message is put into buffer and the module terminates; otherwise, a normal return is issued.

Terminating Conditions: If there are over 190 jobs in the HASP job queue, an appropriate message is put into the display buffer and the module terminates.

Referenced By: JTMON

Language: Assembler

Author: W. H. Brotherton, Jr.

JOSHUA

DPSTM-500

Title

Module: JTSTATUS

Vol.

IX

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E.1.411

Rev.

1

Date

6/73

Purpose: To provide the status of a batch job.

Attribute: Nonreusable

JOS Main Program Name: JTSTATUS

Arguments:

Parameter

Type

Description

CCB

D

CCBMCB - Monitor Control Block

External References: GETMAIN, FREEMAIN

Program Logic: The address of the CCB is received via the argument list. A three-digit field job number located in the argument one (WCBARG1) field is right adjusted if not already right adjusted. The field is tested for digits. If there is no digit, a zero field is put in. After the test the job number is converted to binary. The status of the job is then picked up through a special SVC and its corresponding message is moved into the buffer. The messages are of the following forms:

'JOB NNN NOT LOCATED'

'JOB NNN AWAITING EXECUTION'

'JOB NNN EXECUTION COMPLETE', where
NNN is the job number in question.

A return is then issued.

Referenced By:

JTMON

Language:

Assembler

Authors:

W. H. Brotherton, Jr., R. L. Boyce, Jr.

JOSHUA

DPSTM-500

Title

Module: JTSTLOGC

Vol.

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E.1.413

Rev.

1

Date

6/73

Purpose: To determine type status desired on a batch job.

Attribute: Nonreusable

JOS Main Program Name: JTSTLOGC

Arguments:

Parameter

Type

Description

CCB

D

CCBMCB - Monitor Control Block

External References: GETMAIN, FREEMAIN

Program Logic: The address of the CCB is received via the argument list. If no request is indicated in the argument 1 field (WCBARG1), a return is issued. If four characters are present or if the first character is not a digit, the secondary status function list is set up. A return is then issued.

Referenced By: JTMON

Language: Assembler

Author: R. L. Boyce, Jr.

JOSHUA

DPSTM-500

Title Module: JTSYSERR

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E.1.415

Rev.

1

Date

6/73

Purpose: To set up appropriate message for JOSHUA monitor system error.

Attribute: Nonreusable

JOS Main Program Name: JTSYSERR

<u>Arguments:</u>	<u>Parameter</u>	<u>Type</u>	<u>Description</u>
			CCBMCB - Monitor Control Block
			\$CBERRN - Error number

Internal Table: Table of error messages.

External References: GETMAIN, FREEMAIN

Program Logic: The address of the CCB is received via the argument list.
The appropriate error message is set up in the display
buffer. A return is issued.

Referenced By: JTUSERCD

Language: Assembler

Author: W. H. Brotherton, Jr.

JOSHUA

DPSTM-500

Title Module: JTTDINIT

Vol.	IX	Page	E.1.417
Rev.	1	Date	6/73

Purpose: To analyze user's requests and build the desired cards when in execute mode.

Attribute: Nonreusable

JOS Main Program Name: JTTDINIT

<u>Arguments:</u>	<u>Parameter</u>	<u>Type</u>	<u>Description</u>
	CCB	D	CCBMCB - Monitor Control Block
			CCBSF - Protection Flag

External References: GETMAIN, FREEMAIN

Data Sets: Communication Data Set.

Objective: The module has the following objectives:

- (1) Builds DD (data definition) cards based on user's information.
- (2) Builds data request cards from user's information.
- (3) Builds input data cards upon user's request.
- (4) Writes all cards built to communication data set.

Program Logic: The address of the communication control block (CCB) is received via the argument list. A check is made to see if a tape frame was requested. If one was requested, the bypassing of pager flag is set (if indicated) and the DD cards are built from information supplied by user on tape frame; otherwise, the go-sysin card is built. Then data request cards are built from user's information. The data request cards handle protection code, data set hierarchy, and the scratching of data sets. After building the data request cards (if any desired), a check is made to see if input cards are desired. If they are desired, five input pages are written out to communication data set. If a pager bypass is desired, the appropriate flags are set; if it is not desired, the appropriate entry page is set for pager. A return is then issued.

Terminating Conditions: The module terminates with code on non-numeric FT. number.

Referenced By: JTMON

Language: Assembler

Author: W. H. Brotherton, Jr.

JOSHUA DPSTM-500	Title Module: JTTDINIT	Vol. IX	Page E.1.420
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JOSHUA

DPSTM-500

Title

Module: JTTIME

Vol.

IX

Page

E.1.421

Rev.

1

Date

6/73

Purpose: To obtain current time every two minutes and to save BNAM statistics.

Attribute: Nonreusable

JOS Main Program Name: JTTIME

Argument:

Parameter

Type

Description

RCB

D

Region Control Block

External References: READ, WAIT, TIME, WRITE, STIMER, POST

Data Sets: Control and communication data set.

Objective: The objective is to get the time every two minutes and write it to the flag record. Along with the saving of the time is the saving of the BNAM statistics. This gives one an account of the time the terminals go down as well as the statistics accumulated while up.

Program Logic: The address of the RCB (Region Control Block) is received via the argument list. The flag record is then read by issuing the READ macro. This is done to obtain the statistics that were saved during a terminal run. The statistics are picked up from the record and added to the BNAM statistics table (BST). Next, the statistics are put back into the flag area; the TIME macro is issued to obtain the time (time and date put into flag area) and a WRITE is issued to the flag record with this information. The STIMER macro instruction is then issued; a time interrupt of 120 seconds is specified. Upon its completion, the control passes back to the storing of the statistics, the WRITE, and then again to the STIMER. This goes on through the terminal run.

Referenced By: JTINIT

Language: Assembler

Author: W. H. Brotherton, Jr.

JOSHUA

DPSTM-500

Title

Module: JTUDQNNQ

Vol.

IX

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E.1.423

Rev.

1

Date

6/73

Purpose: To enqueue the specified data set to be updated.

Attribute: Nonreusable

JOS Main Program Name: JTUDQNNQ

<u>Arguments:</u>	<u>Parameter</u>	<u>Type</u>	<u>Description</u>
			CCBMCB - Monitor Control Block
			CCBVERIFY - Verify Flag
			CCBUSER - User Data Set

External References: GETMAIN, FREEMAIN, DEQ, ENQ

Program Logic: The address of the CCB is received via the argument list. The data set that is enqueued at request time (if there is one) is dequeued provided no other user has an enqueue on it. If the DEQ is successful or if the DEQ was not necessary (first entry), the ENQ/DEQ name (WCBNQDQN) is set to blanks and the verify flag (CCBVERIFY) is turned off. If there is no valid name to be enqueued, a return is issued. If there is a valid name, an ENQ is issued unless another user (stationed at terminal) is using it. If such is the case, the name is set up as the ENQ/DEQ name and the verify flag is turned on. If no other user stationed at terminal were using it, an ENQ on the data set would be issued and, if successful, the proper fields and flags would be set. If the ENQ is unsuccessful, an appropriate code is set and a return is issued; otherwise, there is a normal return.

Terminating Conditions: On encountering an unsuccessful ENQ or DEQ, the proper code is set and a return is issued.

ENQ Name: JOSYSTEM (Data set desired)

Referenced By: JTMON

Language: Assembler

Author: R. L. Boyce, Jr.

JOSHUA
DPSTM-500

Title

Module: JTUDQNNQ

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Rev.

1

Date

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JOSHUA

DPSTM-500

Title

Module: JTUSERCD

Vol.

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E.1.427

Rev.

1

Date

6/73

Purpose: To determine error and give appropriate message.

Attribute: Nonreusable

JOS Main Program Name: JTUSERCD

<u>Arguments:</u>	<u>Parameter</u>	<u>Type</u>	<u>Description</u>
	CCB	D	CCBMCB - Monitor Control Block
			\$CBERRN - Error Number

Internal Tables: Table of branches based on program number.

External References: GETMAIN, FREEMAIN, LOAD, JTBNMERR, DELETE, JTSYSERR

Program Logic: The address of the CCB is received via the argument list. The program number and error number (\$CBERRN) are picked up and edited into the display buffer. If the program number is outside the range, an appropriate message is put into display buffer. If the program number indicates a monitor system error, a LOAD is issued to it to obtain the appropriate message. If the program number indicates an error from the data manager (BNAM), a LOAD is issued for the module JTBNMERR and a BALR is issued to it to obtain the appropriate message. All other program and error numbers are analyzed and an appropriate message is put into the display buffer. A return is then issued.

Referenced By: JTMON, JTABEND

Language: Assembler

Author: W. H. Brotherton, Jr.