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KWOC INDEX - COBOL PROGRAMS TO

INDEX BIBLIOGRAPHIC INFORMATION

JOHN R. JORDAN

AMES LABORATORY

RESEARCH AND DEVELOPMENT REPORT

U.S.A.E.C.

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KWOC INDEX - COBOL PROGRAMS TO
INDEX BIBLIOGRAPHIC INFORMATION

JOHN R. JORDAN

Research and Development Report

Ames Laboratory, USAEC

Iowa State University

Ames, Iowa 50010

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ABSTRACT

A system of COBOL (Common Business Oriented Language) computer programs which index bibliographic information recorded in KWIC INDEX format is described. A description of the system, instructions on how to use it, and examples of uses are presented. Appendices contain a system flow chart, input data format, program descriptions, job control language and program source listings.

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INTRODUCTION

The KWOC (Key Word Out of Context) Index System was designed to supply a convenient means of indexing bibliographic information for personal reference or publication. It replaces IBM's KWIC Index Computer System. The KWIC Index for Ames Laboratory's purposes required several hours of computer time and was susceptible to costly errors. The KWOC Index runs in minutes or seconds on the IBM 360/65 with comparable data.

The principle difference in the output is in the KEY word index. Instead of showing the key word imbedded in 60 characters of text, the key word is presented adjacent to the first 100 characters of the title. This format is much easier to read and conveys much more useful information.

To date, the system has been used to produce bibliographies containing up to 6000 entries in the fields of mass spectroscopy (6) and surface chemistry (2). It was also used to prepare the index to papers for a conference on Reprocessing of Nuclear Fuels (3). It forms an integral part of the Ames SDI System (4). The Center for Industrial Research and Service (CIRAS) at Iowa State uses it to prepare directories on expertise, production facilities, as well as indexing their reference library and a management tool to monitor staff activities.

System Description

The system consists of either three or four COBOL programs depending on the user's needs. It accepts input cards prepared in standard KWIC Index format and produces output on one computer run. The output consists of three parts. The first is a bibliography, the second is an author listing and the last is a key word listing.

The bibliography is self-explanatory (see Figure 1). Associated with each entry is a unique cross-reference-code (CRC) shown at the left. The author listing shows all the CRC's for each author. The key word listing is the main feature of the output. It is constructed by extracting each key word from the title of every document, attaching the first 100 characters of the title and then sorting them alphabetically by key word.

The phrase "key word" means every non-function word (of, the, and, etc.) which is not specified as a stop word.

Operating Procedure

The cards are prepared in standard KWIC Index format and used as input to the first program KWOC-A (see Appendix 1) to edit for errors. All those entries which passed the edit are on the KWOCABC file. This may be used as input to KWOC-B (with corrections from cards) to produce an updated KWOCABC. When this file is error-free it is used as input to KWOC-C. Programs KWOC-C and KWOC-D are run in succession. Input to KWOC-D is the output from KWOC-C and stop-word cards. The output from KWOC-D is the finished product.

If the user can tolerate his few key-punch errors, etc., he may simply run programs KWOC-A, KWOC-C, and KWOC-D in one pass and get the output directly. Any errors will be noted on the report from KWOC-A. The finished output will then contain only the correct items.

Options

The system may be used to run one or more sets of data in a given run. If only one set, the user number (see Appendix 2) may be left blank. If more than one set, the user number is used to distinguish the sets. Only the first entry of each set need have a header card. The user number is specified on this card. When specifying more than one set, the stop-words must be designated as belonging to the proper set. This is done by supplying the correct user number on the first stop-word card.

The option switch (col. 56 of header card) is used to designate combinations of line-count (page size) and accumulation of indexes.

<u>Value</u>	<u>Interpretation</u>
blank	60 lines-per page -- no deck will be punched from KWOC-C
1	60 lines per page -- deck will be punched
2	100 lines per page -- no deck will be punched

The extended line count may be used when the output is to be photo-reduced for publication. The NOPAGING option must be used to force printing over the perforation. The punched deck may be used for accumulating indexes.

- SDI-0164391 WILSON MP
IMPLICATIONS OF PLANNING FOR REGIONAL LIBRARIES - OUR UNDERLYING PHILOSOPHY
VOL- 56, PP- 48, 1968 B-MEC-LIB-A
- SDI-0165955 NO AUTHOR
INFORMATION FOR INDUSTRY
VOL- 17, PP- 27, 1968 BATT-TECH-R
- SDI-0165956 WIRTH N
PL360 A PROGRAMMING LANGUAGE FOR 360 COMPUTERS
VOL- 15, PP- 37, 1968 J-ACP
- SDI-0165958 ELIAS AW
ASIS - RESPONSIBILITY AND OPPORTUNITY
VOL- 19, PP- 2, 1968 AM-DOCUMENT
- SDI-0165959 BORKO H
INFORMATION SCIENCE - WHAT IS IT
VOL- 19, PP- 3, 1968 AM-DOCUMENT
- SDI-0165960 HEILPRIN LB
TECHNOLOGY AND FUTURE OF COPYRIGHT PRINCIPLE
VOL- 19, PP- 6, 1968 AM-DOCUMENT

AUTHOR INDEX

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BASSO KM	SDI-0168733	KISELEV OM	SDI-0162110	THORNTON H	SDI-0162130
BATES FE	SDI-0164362	KJEUDERG PM	SDI-0164370	THUSS J	SDI-0161188
BENNETT W	SDI-0163084	KOHLER C	SDI-0161191	TRYBULET A	SDI-0162126
BENNIGSO LA	SDI-0165970	KOHLER K	SDI-0167447	VASELEV RF	SDI-0162119
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BLAGODAR LA	SDI-0162113	LEV F	SDI-0162098	VUICHIK T	SDI-0162121
BLEK AV	SDI-0161168	LEV RP	SDI-0165972	WHITEHAL T	SDI-0162131
BLOCHER CLM	SDI-0165963	LITTLETO IT	SDI-0164364	WHITMAN D	SDI-0165970
BORKO H	SDI-0165959	LOCKLEY LC	SDI-0165966	WILSON MP	SDI-0164391
BORSCHKE VA	SDI-0161170	MARGARIT YB	SDI-0161169	WIRTH N	SDI-0165956
BROOKES BC	SDI-0165975	MARSEQUE M	SDI-0167458	WOLFFTER M	SDI-0168737
BYERS JL	SDI-0167456	MAWATARI K	SDI-0168752	ZAMFII VN	SDI-0161175
CAMPBELL RR	SDI-0164362	MCKINNEY RW	SDI-0163092		
CARPENTE DM	SDI-0165986	MENAPACE E	SDI-0167458		
CHENEY AG	SDI-0165986	MEYERUHL KH	SDI-0161185		
CHERNYI AI	SDI-0161166	MIKHAILO AI	SDI-0161166		
COPPER WS	SDI-0165964	MOTTA M	SDI-0167458		

SDI-0165963	KEY-WORD-IN-CON	A COMPARISON OF RELEVANCE OF KEY-WORD-IN-CONTEXT VERSUS DESCRIPTOR INDEXING TERMS
SDI-0161190	KIEL	REPORT ON 19TH ANNUAL CONVENTION OF GERMAN SOCIETY FOR DOCUMENTATION (DGD) IN KIEL 10-13 OCTOBER
SDI-0165966	KWIC	SCIENTISTS MEET KWIC INDEX
SDI-0162121	LANGUAGE	A PRAXEOLOGICAL MODEL OF LANGUAGE
SDI-0165956	LANGUAGE	PL360 A PROGRAMMING LANGUAGE FOR 360 COMPUTERS
SDI-0167457	LANGUAGE	COMMENTS AND QUERIES DESCRIPTIVE RELAVANCE OF PSYCHOLOGICAL LANGUAGE
SDI-0168734	LANGUAGE	A NATURAL LANGUAGE INFORMATION RETRIEVAL SYSTEM
SDI-0162094	LANGUAGES	SOME REMARKS ON INFLRMATION LANGUAGES THEIR ANALYSIS AND COMPARISON
SDI-0162126	LANGUAGES	PARTITIONING A DICTIONARY IN LANGUAGES WITH DEFINED PARADIGMS
SDI-0161186	LARGE	QUANTITATIVE ANALYSIS OF OPTIMUM CONDITIONS FOR FLOW OF INFORMATION COLLECTED IN A LARGE ENTERPRISE
SDI-0161187	LARGE	DEVELOPMENT AND ORGANIZATION OF A LITERATURE DEPARTMENT IN A LARGE INDUSTRY
SDI-0164370	LEARNING	PAVLOV - AN INFORMATION RETRIEVAL PROGRAM FOR ANALYSIS OF LEARNING DATA
SDI-0167454	LENDING	NATIONAL LENDING LIBRARY FOR SCIENCE AND TECHNOLOG
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SDI-0164391	LIBRARIES	IMPLICATIONS OF PLANNING FOR REGIONAL LIBRARIES - OUR UNDERLYING PHILOSOPHY
SDI-0168756	LIBRARIES	MECHANIZATION IN DEFENSE LIBRARIES
SDI-0164389	LIBRARY	CHANGING ROLE OF LIBRARY
SDI-0167454	LIBRARY	NATIONAL LENDING LIBRARY FOR SCIENCE AND TECHNOLOG
SDI-0168745	LIBRARY	COMPUTERIZED INSTANT LIBRARY LGAN SYSTEM DESIGNED
SDI-0168762	LIBRARY	COMPUTERIZED LIBRARY CATALOG
SDI-0168733	LINGUISTIC	SEMANTIC ASPECTS OF LINGUISTIC ACCULTURATION
SDI-0168735	LINGUISTIC	A LINGUISTIC APPROACH TO RELEVANCE JUDGEMENT - IMPLICATIONS FROM AN ANALYSIS OF MEDICAL LITERATURE
SDI-0167447	LINGUISTICS	FIRTHIAN LINGUISTICS AND GENERATIVE APPROACH
SDI-0168758	LIST	ACCESS TO INFORMATION AND A MAILING LIST OF ALL COMPUTER PEOPLE

SDI-0162088	RECENT	RETRIEVAL OF INFORMATION FROM RECENT LITERATURE ON MEDICINAL CHEMISTRY
SDI-0165973	REFERENCE	UNANSWERED SCIENCE AND TECHNOLOGY REFERENCE QUESTIONS
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SDI-0161170	RELATED	RELATED GRAMMARS
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SDI-0162102	RELATIONAL	RELATIONAL ASPECTS OF CONCEPTUALIZATION IN MESSAGE ANALYSIS
SDI-0162098	RELATIVE	ON RELATIVE NATURE OF RELATIONAL FACTORS IN CLASSIFICATIONS
SDI-0165976	RELATIVE	RELATIVE IMPORTANCE OF ARTICLES-CITED VERSUS TITLES-CITED IN FREQUENCY COUNTS
SDI-0167457	RELAVANCE	COMMENTS AND QUERIES DESCRIPTIVE RELAVANCE OF PSYCHOLOGICAL LANGUAGE
SDI-0165963	RELEVANCE	A COMPARISON OF RELEVANCE OF KEY-WORD-IN-CONTEXT VERSUS DESCRIPTOR INDEXING TERMS
SDI-0168735	RELEVANCE	A LINGUISTIC APPROACH TO RELEVANCE JUDGEMENT - IMPLICATIONS FROM AN ANALYSIS OF MEDICAL LITERATURE
SDI-0167456	RELEVANT	RELEVANT AND IRRELEVANT INFORMATION IN CONCEPT ATTAINMENT
SDI-0162094	REMARKS	SOME REMARKS ON INFLRMATION LANGUAGES THEIR ANALYSIS AND COMPARISON
SDI-0161190	REPORT	REPORT ON 19TH ANNUAL CONVENTION OF GERMAN SOCIETY FOR DOCUMENTATION (DGD) IN KIEL 10-13 OCTOBER

Fig. 1. Example portions of KWOC index.

REFERENCES

1. Capellen, J., Svec, H. J., Jordan, J. R., Watkins, W. J.,
"Bibliography of Mass Spectroscopy Literature for the
First Half of 1967 Compiled by a Computer Method", USAEC
Report IS-1829 (1968).
2. Broadhead, D. E., Jordan, J. R., Hansen, R. S., "Bibliography
of Double Layer Studies at the Polarized Liquid/Solution
Interface", USAEC Report IS-2131 (1969).
3. Reprocessing of Nuclear Fuels, P. Chiotti, Ed., Nuclear Metal-
lurgy Vol. 15 (1969), available as USAEC Report CONF-690801.
4. Jordan, J. R., Watkins, W. J., "KWOC-Index as an Automatic By-
Product of SDI", Proceedings of the American Society for
Information Science, Vol.5 (1968).

APPENDIX 1

SYSTEM FLOW CHART

* Optional

APPENDIX 2

INPUT FORMATS

There are two forms of input to the system. The formats of these inputs are outlined below.

I. Source Cards

There are four classes of source cards. The class is designated by a code in column 75 of the card. A '0' designates a header card; a '1' designates author card; a '2' designates a title card and a '3' designates a source card. For each entry, there may be up to nine cards in each class. These are numbered sequentially in column 74 beginning with 1.

II. Stop Word Cards

Columns	Contents
1-15	"Stop-Word"
16-25	blank
26-32	user number
33-34	character count*
35-80	blank

* If this is left blank, an exact match is required to stop. If not blank, it must be a number between 1 and 15. It then causes any word for which this stop word is a prefix to be stopped.

KWOC accepts either tape or card input depending on Job Control supplied.

In either event, input is standard "KWIC" format.

The following cards constitute an input set.

1. Header

<u>Card Column (s)</u>	<u>Content</u>
1-7	user number
8-27	user name
28-55	user address
56	option switch
57-60	date week (or blank)*
61	blank
62-72	cross reference code (CRC)
73	blank
74	seq. no.
75	'0'
76-80	blank

* date = AXXX where A-7 for year = 1967,

XXX = (MO-1) (30) + da for Mo/da.

2. Author

1-20	author 1
21-40	author 2
41-60	author 3
61	blank
62-72	CRC
73	blank
74	seq. no.
75	'1'
76-80	blank

3. Title

1-60	title
61	blank
62-72	CRC
73	blank
74	seq. no.
75	'2'
76-80	blank

4. Source

1-60	source
61	blank
62-72	CRC
73	blank
74	seq. no.
75	'3'
76-80	blank

DATE _____
PAGE _____

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APPENDIX 3

PROGRAM DESCRIPTIONS

KWOC-A

Function:

1. The CRC contained on the header card is placed into each succeeding card of the data set.
2. Each user's deck is sequenced in 76-80 by increments of 00003 starting with 0004.
3. Edit initial input for errors.
 - a. Presence of all class cards.
 - b. Sequence of continuation cards.
4. Produce a listing of the edited data showing any errors (KWOCOA3).
5. Produce an input tape for KWOCB or KWOC (KWOCABC)

Input: Sequence is: (user number, KWIC - Code) KWIC INDEX Data Cards.

Output:

1. KWOCADC - Card images which passed the edit.
2. KWOCOA3 - Point 4 above.

KWOC-B

This program is not part of the main system. It is run only when there are corrected cards to be added to the KWOC-A output tape without reprocessing all of the original input.

Function:

1. Up-date KWOCABC
2. Produce a listing (KWOCBB1 of the update file (KWOCABC)

Input:

1. KWOCABC
2. KWOCBB2 (corrections)

Output:

1. KWOCABC
2. KWOCBB1

KWOC-C

Input: KWOCABC

Output:

1. KWOCDD1 - a card image file with the CRC blank (accumulation file -- may be dummied).
2. KWOCDD1 - a file composed of records to be printed by KWOCDD.
 - a. Header - User name and address
 - b. Bibliography
 - c. Title

KWOC-D

Input:

1. KWOCDD1 - Stop word file.
2. KWOCDD1 - Output from KWOCDD.

Output: KWOCDD2 - for each user.

1. Bibliography
2. Author Index
3. KWOC Index

APPENDIX 4

JOB CONTROL FOR THE KWOC INDEX SYSTEM

1. JOB CONTROL FOR AN EDIT RUN

```

-----
//JOBNAME  JOB 'ACCT#,TIME=3,SIZE=128K'PROGRAMMERNAME,MSGLEVEL=1
//STEP1    EXEC PGM=KWUCA,REGION=96K
//KWUCABC  DD UNIT=2400,DISP=(NEW,KEEP),VOLUME=SER=TAPEABC,
//          DCB=(RECFM=FB,LRECL=80,BLKSIZE=3200),DSNAME=KWUCABC
//KWUCAA2  DD SYSOUT=A,DCB=(,LRECL=111,BLKSIZE=1110)
//KWUCAA1  DD *

```

*** REPLACE WITH KWIC INDEX CARDS ***

/*

2. JOB CONTROL FOR A CORRECTION RUN

```

-----
//JOBNAME  JOB 'ACCT#,TIME=3,SIZE=128K'PROGRAMMERNAME,MSGLEVEL=1
//STEP1    EXEC PGM=KWUCB,REGION=96K
//KWUCBB1  DD SYSOUT=A,DCB=(RECFM=FB,LRECL=111,BLKSIZE=1110)
//ABCKWUC  DD UNIT=2400,DISP=(OLD,KEEP),VOLUME=SER=ABCTAPE,
//          DCB=(RECFM=FB,LRECL=80,BLKSIZE=3200),DSNAME=KWUCABC
//KWUCABC  DD UNIT=2400,DISP=(NEW,KEEP),VOLUME=SER=TAPEABC,
//          DCB=(RECFM=FB,LRECL=80,BLKSIZE=3200)
//KWUCBB2  DD *

```

*** REPLACE WITH CORRECTION CARDS ***

/*

3. JOB CONTROL FOR A PRODUCTION RUN

```

-----
//JOBNAME  JOB 'ACCT#,TIME=3,SIZE=128K'PROGRAMMERNAME,MSGLEVEL=1
//STEP1    EXEC PGM=KWUCA,REGION=96K,TIME=1
//KWUCABC  DD UNIT=2400,DISP=(NEW,PASS),VOLUME=SER=TAPEABC,
//          DCB=(RECFM=FB,LRECL=80,BLKSIZE=3200),DSNAME=KWUCABC
//KWUCAA2  DD DUMMY,DCB=(,LRECL=111,BLKSIZE=1110)
//KWUCAA1  DD *

```

*** REPLACE WITH KWIC INDEX CARDS ***

/*

```

//STEP2    EXEC PGM=KWUCC,REGION=128K
//ABCKWUC  DD UNIT=2400,DISP=(OLD,KEEP),VOLUME=SER=TAPEABC,
//          DCB=(RECFM=FB,LRECL=80,BLKSIZE=3200),DSNAME=KWUCABC
//KWUCCD1  DD UNIT=2314,DISP=(NEW,PASS),DSNAME=EKWUCCD1,
//          SPACE=(TRK,(1500,50),RLSE),DCB=(,LRECL=134,BLKSIZE=3484)
//KWUCCD1  DD DUMMY,DCB=(,LRECL=80,BLKSIZE=80)
//STEP3    EXEC PGM=KWUCD,REGION=128K
//KWUCDD2  DD SYSOUT=A,DCB=(RECFM=FB,LRECL=132,BLKSIZE=1320)
//KWUCDD3  DD DSNAME=EKWUCDD3,DISP=(NEW,PASS),SPACE=(TRK,(5,5)),
//          UNIT=2314,DCB=(,LRECL=24,BLKSIZE=3600)
//SUKTL16  DD DSNAME=SYS1.SUKTL16,DISP=SHR
//SYSOUT   DD SYSOUT=A
//SUKTWK01 DD UNIT=2314,SPACE=(TRK,(500),,CONTIG)
//SUKTWK02 DD UNIT=2314,SPACE=(TRK,(500),,CONTIG)
//SUKTWK03 DD UNIT=2314,SPACE=(TRK,(500),,CONTIG)
//SUKTWK04 DD UNIT=2314,SPACE=(TRK,(500),,CONTIG)
//SUKTWK05 DD UNIT=2314,SPACE=(TRK,(500),,CONTIG)
//SUKTWK06 DD UNIT=2314,SPACE=(TRK,(500),,CONTIG)
//SUKTIN   DD DSNAME=EKWUCCD1,DISP=(OLD,DELETE),UNIT=2314,
//          DCB=(,LRECL=134,BLKSIZE=3484)
//SUKTUUT  DD DUMMY,DCB=(,LRECL=80,BLKSIZE=80)
//KWUCDD1  DD *

```

*** REPLACE WITH STOP WORDS ***

/*

END OF JOB CONTROL LANGUAGE LISTING

 APPENDIX 5
 PROGRAM SOURCE LISTINGS

```

*****
***** PROGRAM KWUC-A *****
*****
//BO70KWUC JOB 'A0087,TIME=1',JORDAN,MSGLEVEL=1
//STPA EXEC CUBFC
//CUB.SYSIN DD *
001010 IDENTIFICATION DIVISION. KWUC-A
001020 PROGRAM-ID. 'KWUC-A' KWUC-A
001030 AUTHOR. WAYNE J. WATKINS, INFORMATION RETREVAL GROUP. KWUC-A
001040 INSTALLATION. AMES LABORATORY, USAEC. KWUC-A
001050 SECURITY. THIS PROGRAM DOES NOT QUALIFY FOR SECURITY REGULATIONS. KWUC-A
001060 AMES LAB., USAEC DOES NOT MAKE ANY WARRANTY IN REGARD TO THE KWUC-A
001070 ACCURACY OR USEFULNESS OF THIS PROGRAM. KWUC-A
001080 REMARKS. THIS PROGRAM IS THE 1ST IN A SERIES OF 4 PROGRAMS WHICH KWUC-A
001090 MAKE UP THE AMES LAB. KWUC INDEX SYSTEM. KWUC-A
001100 THIS PROGRAM DOES THE FOLLOWING KWUC-A
001110 A. LISTS THE KWUC INDEX FORMATTED DATA SETS TO BE PASSED ON KWUC-A
001120 TO KWUC AND NOTES UNACCEPTABLE DATA SETS WITH CORRESPONDING KWUC-A
001130 ERROR DIAGNOSTICS. KWUC-A
001140 B. CREATES A FILE OF ONLY THE ACCEPTABLE DATA SETS FOR KWUC. KWUC-A
001150 ENVIRONMENT DIVISION. KWUC-A
001160 CONFIGURATION SECTION. KWUC-A
001170 SOURCE-COMPUTER. IBM-360 H50. KWUC-A
001180 OBJECT-COMPUTER. IBM-360 H50. KWUC-A
001190 INPUT-OUTPUT SECTION. KWUC-A
001200 FILE-CONTROL. KWUC-A
001210 SELECT KWUC-IN ASSIGN TO 'KWUCAA1' UTILITY. KWUC-A
001220 SELECT KWUC-OUT ASSIGN TO 'KWUCAA2' UTILITY. KWUC-A
001230 SELECT PRINT-OUT ASSIGN TO 'KWUCAAZ' UTILITY. KWUC-A
002010 DATA DIVISION. KWUC-A
002020 FILE SECTION. KWUC-A
002030 FD KWUC-IN KWUC-A
002040 RECORDING MODE IS F KWUC-A
002050 LABEL RECORDS ARE STANDARD KWUC-A
002060 ALLOC CONTAINS 0 RECORDS KWUC-A
002070 DATA RECORD IS KWUCIN-RECORD. KWUC-A
002080 01 KWUCIN-RECORD PICTURE X(80). KWUC-A
002090 FD KWUC-OUT KWUC-A
002100 RECORDING MODE IS F KWUC-A
002110 ALLOC CONTAINS 0 RECORDS KWUC-A
002120 LABEL RECORDS ARE STANDARD KWUC-A
002130 DATA RECORD IS KWUCOUT-RECORD. KWUC-A
002140 01 KWUCOUT-RECORD. KWUC-A
002150 02 FILLER PICTURE X(75). KWUC-A
002160 02 FILLER PICTURE X(5). KWUC-A
002170 FD PRINT-OUT KWUC-A
002180 RECORDING MODE IS F KWUC-A
002190 ALLOC CONTAINS 0 RECORDS KWUC-A
002200 LABEL RECORDS ARE OMITTED KWUC-A
002210 DATA RECORD IS PRINT-RECORD. KWUC-A
002220 01 PRINT-RECORD. KWUC-A
002230 02 CAR PICTURE X. KWUC-A
002240 02 FILLER PICTURE X(75). KWUC-A
002250 02 FILLER PICTURE X(5). KWUC-A
002260 02 FILLER PICTURE X(30). KWUC-A
003010 WORKING-STORAGE SECTION KWUC-A
003020 01 CARDWK. KWUC-A
003030 02 CARDUSE PICTURE X(7). KWUC-A
003040 02 CARDINFO PICTURE X(54). KWUC-A
003050 02 CARDCRC PICTURE X(11). KWUC-A
003060 02 CARDCONT PICTURE X(1). KWUC-A
003070 02 CARDSEQ PICTURE X(1). KWUC-A
003080 02 CLASSCODE PICTURE X(1). KWUC-A
003090 02 TEMPSTRT PICTURE X(5). KWUC-A
003100 01 ZEROCARD. KWUC-A
003110 02 USERNO PICTURE X(7). KWUC-A
003120 02 USERADD PICTURE X(48). KWUC-A
003130 02 USERFLAG PICTURE X(1). KWUC-A
003140 02 USERDATE PICTURE X(4). KWUC-A
003145 02 CHANGEFLAG PICTURE X. KWUC-A
003150 02 USERCRC PICTURE X(11). KWUC-A
003160 02 USERCNT PICTURE X(1). KWUC-A
003170 02 USERSEQ PICTURE X(1). KWUC-A
003180 02 USERCLASS PICTURE X(1). KWUC-A

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003190      02 USFRSORT PICTURE 9(5), USAGE IS DISPLAY.      KWUCA
003200 01 PRINT-WORK.      KWUCA
003215      02 FILLER PICTURE X.      KWUCA
003210      02 PRINT-CARD.      KWUCA
003220          03 CARDA PICTURE X(61).      KWUCA
003230          03 PNTCRC PICTURE X(11).      KWUCA
003240          03 CARDAA PICTURE X(3).      KWUCA
003250          03 PNTSOR PICTURE 9(5), USAGE IS DISPLAY.      KWUCA
003260      02 FILLER PICTURE X(10), VALUE IS SPACES.      KWUCA
003270      02 ERMES PICTURE X(20).      KWUCA
003280 01 CARDTABLE.      KWUCA
003290      02 CARDTABLEA OCCURS 30 TIMES      KWUCA
003295          03 SOURCEDAT PICTURE X(10).      KWUCA
003300          03 FILLER PICTURE X(51).      KWUCA
003310          03 TABLECRC PICTURE X(11).      KWUCA
003320          03 FILLER PICTURE X(3).      KWUCA
003330          03 SURFLD PICTURE 9(5), USAGE IS DISPLAY.      KWUCA
003340 01 ERRORS.      KWUCA
003350      02 ERRORA OCCURS 30 TIMES PICTURE X(20).      KWUCA
003360 01 CRCKEY PICTURE X(1).      KWUCA
003370 01 OLDCLASS PICTURE X(1).      KWUCA
003380 01 SEQKEY PICTURE X(1).      KWUCA
003390 01 TABCNT PICTURE S99, COMPUTATIONAL.      KWUCA
003400 01 TABA PICTURE S99, COMPUTATIONAL.      KWUCA
004010 PROCEDURE DIVISION.      KWUCA
004020 OPEN INPUT KWUC-IN.      KWUCA
004030 OPEN OUTPUT KWUC-OUT, PRINT-OUT.      KWUCA
004040 READ KWUC-IN INTO CARDWK AT END GO TO NO-DATA.      KWUCA
004050 MOVE SPACES TO ZEROCARD.      KWUCA
004060 MOVE ZERUES TO USERDATE.      KWUCA
004065 MOVE SPACE TO CHANGEFLAG.      KWUCA
004070 MOVE '1' TO USERSEQ.      KWUCA
004080 MOVE '0' TO USERCLASS.      KWUCA
004090 MOVE ZERUES TO USERSORT.      KWUCA
004100 NEW-SET-DATA.      KWUCA
004104 IF CLASSCODE < '0'      KWUCA
004107     PERFORM KWUC-EDITA THRU KWUC-EDITAA UNTIL CLASSCODE > '2'.      KWUCA
004110 MOVE '0' TO OLDCLASS.      KWUCA
004120 MOVE '0' TO SEQKEY.      KWUCA
004130 COMPUTE TABCNT = 1.      KWUCA
004140 MOVE SPACES TO ERRORS.      KWUCA
004148 KWUC-STOPPERA.      KWUCA
004149 GO TO KWUC-STUPPERB.      KWUCA
004150 KWUC-STUPPERB.      KWUCA
004150 PERFORM KWUC-EDITO THRU KWUC-EDITOO UNTIL CLASSCODE      KWUCA
004152     IS NOT = '0'.      KWUCA
004159 ADD 3 TO USERSORT.      KWUCA
004160 MOVE '0' TO SEQKEY.      KWUCA
004170 PERFORM KWUC-EDIT1 THRU KWUC-EDIT11 UNTIL CLASSCODE      KWUCA
004172     IS NOT = '1'.      KWUCA
004180 IF OLDCLASS IS NOT = '1'      KWUCA
004190     MOVE 'NO AUTHOR CARD' TO ERRORA (TABCNT).      KWUCA
004200 MOVE '0' TO SEQKEY.      KWUCA
004210 PERFORM KWUC-EDIT2 THRU KWUC-EDIT22 UNTIL CLASSCODE      KWUCA
004212     IS NOT = '2'.      KWUCA
004220 IF OLDCLASS IS NOT = '2'      KWUCA
004230     MOVE 'NO TITLE CARD' TO ERRORA (TABCNT).      KWUCA
004231 MOVE '0' TO SEQKEY, PERFORM KWUC-EDIT2 THRU KWUC-EDIT22      KWUCA
004232     UNTIL CLASSCODE IS NOT = '3'.      KWUCA
004233 MOVE '0' TO SEQKEY, PERFORM KWUC-EDIT2 THRU KWUC-EDIT22      KWUCA
004234     UNTIL CLASSCODE IS NOT = '5'.      KWUCA
004235 MOVE '0' TO SEQKEY, PERFORM KWUC-EDIT2 THRU KWUC-EDIT22      KWUCA
004236     UNTIL CLASSCODE IS NOT = '9'.      KWUCA
004240 PERFORM KWUC-EDIT3 THRU KWUC-EDIT33 UNTIL CLASSCODE < '3'.      KWUCA
004250 IF ERRORS IS NOT = SPACES      KWUCA
004252     PERFORM ASTERISK1 THRU ASTERISK2 VARYING TABA FROM      KWUCA
004255     1 BY 1 UNTIL TABA = TABCNT,      KWUCA
004260     ALTER KWUC-WRITE2 TO PROCEED TO KWUC-PRINT.      KWUCA
004270 PERFORM KWUC-WRITE1 THRU KWUC-WRITE9 VARYING TABA FROM 1 BY 1      KWUCA
004280     UNTIL TABA IS = TABCNT.      KWUCA
004290 ALTER KWUC-WRITE2 TO PROCEED TO KWUC-WRITE3.      KWUCA
004320 KWUC-STOPPER.      KWUCA
004330 GO TO NEW-SET-DATA.      KWUCA
004340 NO-DATA.      KWUCA
004350 DISPLAY 'INPUT DATA MISSING' UPON CONSOLE.      KWUCA
004360 CLOSE-FILES.      KWUCA
004370 CLOSE KWUC-IN, KWUC-OUT, PRINT-OUT.      KWUCA
004380 DISPLAY 'END OF KWUCA' UPON CONSOLE.      KWUCA
004390 STOP RUN.      KWUCA
005010 KWUC-EDITO.      KWUCA
005020 IF CARDUSE = USERNO MOVE CARDCRC TO USERCRC      KWUCA

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***** PRUGRAM KWOC-D *****  
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//STPB      EXEC CUBFC
//CUB.SYSIN DD *
001010 IDENTIFICATION DIVISION. KWUCA
001020 PROGRAM-ID. 'KWUCB' KWUCB
001030 AUTHOR. WAYNE J. WATKINS, INFORMATION RETREVAL GROUP. KWUCA
001040 INSTALLATION. AMES LABORATORY, USAEC. KWUCA
001050 SECURITY. THIS PROGRAM DOES NOT QUALIFY FOR SECURITY REGULATIONS. KWUCA
001060 AMES LAB., USAEC DOES NOT MAKE ANY WARRANTY IN REGARD TO THE KWUCA
001070 ACCURACY OR USEFULNESS OF THIS PROGRAM. KWUCA
001080 REMARKS. THIS PROGRAM IS THE 2ND OF A SERIES OF 4 PROGRAMS WHICH KWUCB
001090 MAKE UP THE AMES LAB. KWUC INDEX SYSTEM. KWUCA
001100 THIS PROGRAM DOES THE FOLLOWING KWUCA
001110 A. LISTS THE KWIC INDEX FURMATTED DATA SETS TO BE PASSED ON KWUCA
001120 TO KWUCC AND NOTES UNACCEPTABLE DATA SETS WITH CORRESPONDING KWUCA
001130 ERROR DIAGNOSTICS. KWUCA
001140 B. CREATES A FILE OF ONLY THE ACCEPTABLE DATA SETS FOR KWUCC. KWUCA
001141 C. KWUCB IS A MODIFICATION TO KWUCA WHICH ADDS, DELETES, KWUCA
001142 AND REPLACES DATA SETS TO THE FILE CREATED BY KWUCA. KWUCA
001143 D. THIS PROGRAM IS STRICTLY AN OPTIONAL FEATURE OF THE SYSTEM KWUCB
001150 ENVIRONMENT DIVISION. KWUCA
001160 CONFIGURATION SECTION. KWUCA
001170 SOURCE-COMPUTER. IBM-360 H50. KWUCA
001180 OBJECT-COMPUTER. IBM-360 H50. KWUCA
001190 INPUT-OUTPUT SECTION. KWUCA
001200 FILE-CONTROL. KWUCA
001210 SELECT KWUC-IN ASSIGN TO 'KWUCB82' UTILITY. KWUCB
001220 SELECT KWUC-OUT ASSIGN TO 'KWUCB81' UTILITY. KWUCB
001230 SELECT PRINT-OUT ASSIGN TO 'KWUCB81' UTILITY. KWUCB
001240 SELECT KWUC-INB ASSIGN TO 'KWUCB81' UTILITY. KWUCB
002010 DATA DIVISION. KWUCA
002020 FILE SECTION. KWUCA
002030 FD KWUC-IN KWUCA
002040 RECORDING MODE IS F KWUCA
002050 LABEL RECORDS ARE STANDARD KWUCA
002055 BLOCK CONTAINS 0 RECORDS KWUCB
002060 DATA RECORD IS KWUCIN-RECORD. KWUCA
002070 01 KWUCIN-RECORD PICTURE X(80). KWUCA
002080 FD KWUC-OUT KWUCA
002090 RECORDING MODE IS F KWUCA
002100 LABEL RECORDS ARE STANDARD KWUCA
002110 DATA RECORD IS KWUCOUT-RECORD. KWUCA
002120 01 KWUCOUT-RECORD. KWUCA
002130 02 FILLER PICTURE X(80). KWUCA
002150 FD PRINT-OUT KWUCA
002160 RECORDING MODE IS F KWUCA
002170 LABEL RECORDS ARE OMITTED KWUCA
002180 DATA RECORD IS PRINT-RECORD. KWUCA
002190 01 PRINT-RECORD. KWUCA
002195 02 CAR PICTURE X. KWUCA
002200 02 FILLER PICTURE X(110). KWUCA
002230 FD KWUC-INB KWUCB
002240 RECORDING MODE IS F KWUCB
002250 LABEL RECORDS STANDARD KWUCB
002260 DATA RECORD IS KWUCINB-RECORD. KWUCB
002270 01 KWUCINB-RECORD PICTURE X(80). KWUCB
003010 WORKING-STORAGE SECTION KWUCA
003020 01 CARDWK. KWUCA
003030 02 CARDUSE PICTURE X(7). KWUCA
003040 02 CARDINFO PICTURE X(54). KWUCA
003050 02 CARDCRC PICTURE X(11). KWUCA
003060 02 CARDCONT PICTURE X(1). KWUCA
003070 02 CARDSEQ PICTURE X(1). KWUCA
003080 02 CLASSCODE PICTURE X(1). KWUCA
003090 02 TLMPSORI PICTURE X(5). KWUCA
003100 01 ZEROCARD. KWUCA
003110 02 USERNO PICTURE X(7). KWUCA
003120 02 USERADD PICTURE X(48). KWUCA
003130 02 USERFLAG PICTURE X(1). KWUCA
003140 02 USERDATE PICTURE X(4). KWUCA
003145 02 CHANGEFLAG PICTURE X. KWUCA
003150 02 USERCRC PICTURE X(11). KWUCA
003160 02 USERCNT PICTURE X(1). KWUCA
003170 02 USERSEQ PICTURE X(1). KWUCA
003180 02 USERCLASS PICTURE X(1). KWUCA
003190 02 USERSORT PICTURE X(5). KWUCB
003200 01 PRINT-WORK. KWUCA
003205 02 FILLER PICTURE X. KWUCA
003210 02 PRINT-CARD. KWUCA
003220 03 CARDA PICTURE X(61). KWUCA
003230 03 PNTCRC PICTURE X(11). KWUCA
003240 03 CARDAA PICTURE X(3). KWUCA

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003250      03 PNTSOR PICTURE X(5). KWUCB
003260      02 FILLER PICTURE X(10), VALUE IS SPACES. KWUCA
003270      02 ERRMES PICTURE X(20). KWUCA
003280 01 CARDTABLE. KWUCA
003290      02 CARDTABLEA OCCURS 30 TIMES KWUCA
003295      03 SOURCEAT PICTURE X(10). KWUCA
003300      03 FILLER PICTURE X(51). KWUCA
003310      03 TABLECRC PICTURE X(11). KWUCA
003320      03 FILLER PICTURE X(3). KWUCA
003330      03 SORFLD PICTURE X(5). KWUCB
003340 01 ERRORS. KWUCA
003350      02 ERRORA OCCURS 30 TIMES PICTURE X(20). KWUCA
003360 01 CRCKEY PICTURE X(1). KWUCA
003370 01 ULDCCLASS PICTURE X(1). KWUCA
003380 01 SEQKEY PICTURE X(1). KWUCA
003390 01 TABCNT PICTURE S99, COMPUTATIONAL. KWUCA
003400 01 TABA PICTURE S99, COMPUTATIONAL. KWUCA
003410 01 TAPEREC. KWUCB
003420      02 USERNUMBER PICTURE X(11). KWUCB
003430      02 FILLER PICTURE X(68). KWUCB
003440      02 SORTED PICTURE X(5). KWUCB
004010 PROCEDURE DIVISION. KWUCA
004020      OPEN INPUT KWUC-IN, KWUC-INB. KWUCB
004030      OPEN OUTPUT KWUC-OUT, PRINT-OUT. KWUCA
004040      READ KWUC-IN INTO CARDWK AT END GO TO NO-DATA. KWUCA
004044      READ KWUC-INB INTO TAPEWK AT END MOVE '99999' TO SORTED, KWUCB
004046      MOVE '9999999' TO USERNUMBER. KWUCB
004050      MOVE SPACES TO ZEROCARD. KWUCA
004060      MOVE ZERUES TO USERDATE. KWUCA
004065      MOVE SPACE TO CHANGEFLAG. KWUCA
004070      MOVE '1' TO USERSEQ. KWUCA
004080      MOVE '0' TO USERCLASS. KWUCA
004090      MOVE ZERUES TO USERSORT. KWUCA
004100 NEW-SET-DATA. KWUCA
004104      IF CLASSCODE < '0' KWUCA
004107          PERFORM KWUC-EDITA THRU KWUC-EDITAA UNTIL CLASSCODE > '2'. KWUCA
004110      MOVE '0' TO ULDCCLASS. KWUCA
004120      MOVE '0' TO SEQKEY. KWUCA
004130      COMPUTE TABCNT = 1. KWUCA
004140      MOVE SPACES TO ERRORS. KWUCA
004148 KWUC-STOPPERA. KWUCA
004149      GO TO KWUC-STOPPERB. KWUCA
004150 KWUC-STOPPERB. KWUCA
004150      PERFORM KWUC-EDITU THRU KWUC-EDITUU. KWUCB
004155      IF ULDCCLASS IS NOT = '0' MOVE 'NO HEADER CARD' TO KWUCB
004158          ERRORA (1). KWUCB
004160      MOVE '0' TO SEQKEY. KWUCA
004170      PERFORM KWUC-EDIT1 THRU KWUC-EDIT11 UNTIL CLASSCODE KWUCA
004172          IS NOT = '1'. KWUCB
004180      IF ULDCCLASS IS NOT = '1' KWUCA
004190          MOVE 'NO AUTHOR CARD' TO ERRORA (TABCNT). KWUCA
004200      MOVE '0' TO SEQKEY. KWUCA
004210      PERFORM KWUC-EDIT2 THRU KWUC-EDIT22 UNTIL CLASSCODE KWUCA
004212          IS NOT = '2'. KWUCA
004220      IF ULDCCLASS IS NOT = '2' KWUCA
004230          MOVE 'NO TITLE CARD' TO ERRORA (TABCNT). KWUCA
004231      MOVE '0' TO SEQKEY, PERFORM KWUC-EDIT2 THRU KWUC-EDIT22 KWUCA
004232          UNTIL CLASSCODE IS NOT = '3'. KWUCA
004233      MOVE '0' TO SEQKEY, PERFORM KWUC-EDIT2 THRU KWUC-EDIT22 KWUCA
004234          UNTIL CLASSCODE IS NOT = '5'. KWUCA
004235      MOVE '0' TO SEQKEY, PERFORM KWUC-EDIT2 THRU KWUC-EDIT22 KWUCA
004236          UNTIL CLASSCODE IS NOT = '9'. KWUCA
004240      PERFORM KWUC-EDIT3 THRU KWUC-EDIT33 UNTIL CLASSCODE < '3'. KWUCA
004241      MOVE SPACES TO ERRMES. KWUCB
004242      PERFORM TAPE-COPY-01 THRU TAPE-COPY-10 UNTIL USERNUMBER IS KWUCB
004243          NOT < USERNO AND SORTED IS NOT < USERSORT. KWUCB
004244      PERFORM WHAT-TO-DO1 THRU WHAT-TO-DO9. KWUCB
004250      IF ERRORS IS NOT = SPACES KWUCA
004252          PERFORM ASTERISK1 THRU ASTERISK2 VARYING TABA FROM KWUCA
004255          1 BY 1 UNTIL TABA = TABCNT, KWUCA
004260          ALTER KWUC-WRITE2 TO PROCEED TO KWUC-PRINT. KWUCA
004270      PERFORM KWUC-WRITE1 THRU KWUC-WRITE9 VARYING TABA FROM 1 BY 1 KWUCA
004280          UNTIL TABA IS = TABCNT. KWUCA
004290      ALTER KWUC-WRITE2 TO PROCEED TO KWUC-WRITE3. KWUCA
004320 KWUC-STOPPER. KWUCA
004330      GO TO NEW-SET-DATA. KWUCA
004340 NO-DATA. KWUCA
004350      DISPLAY 'INPUT DATA MISSING' UPON CONSOLE. KWUCA
004360 CLOSE-FILES. KWUCA
004362      MOVE SPACES TO ERRMES. KWUCB
004365      PERFORM TAPE-COPY-01 THRU TAPE-COPY-10 UNTIL USERNUMBER = KWUCB

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004366 '999999' AND SORTED = '99999'.
004370 CLOSE KWOC-IN, KWOC-OUT, PRINT-OUT, KWOC-INB.
004380 'DISPLAY 'END OF KWOC' UPON CONSOLE.
004390 STOP RUN.
005010 KWOC-EDIT0.
005060 KWOC-EDIT0A.
005070 IF CARDSEQ IS NOT > SEQKEY MOVE 'SEQUENCING ERROR
005080 TO ERRORA (TABCNT).
005090 MOVE CARDWK TO CARDTABLEA (TABCNT).
005092 IF TEMPSORT = '00000' GO TO JESS-FIX.
005093 IF TEMPSORT IS NOT > USERSORT MOVE 'SEQ. ERROR COL 76-80'
005094 TO ERRORA (TABCNT).
005095 JESS-FIX.
005096 MOVE CARDWK TO ZEROCARD.
005110 MOVE '0' TO OLDCLASS.
005120 MOVE CARDSEQ TO SEQKEY.
005130 MOVE '0' TO OLDCLASS.
005140 READ KWOC-IN INTO CARDWK AT END ALTER KWOC-STOPPER TO PROCEED
005150 TO CLOSE-FILES, MOVE 'X' TO CLASSCODE.
005160 COMPUTE TABCNT = TABCNT + 1.
005170 KWOC-EDIT00. EXIT
006010 KWOC-EDIT1.
006070 IF TABLECRC (1) = SPACES AND CARDCRC = SPACES
006080 MOVE 'NO CROSS REF. CODE ' TO ERRORA (TABCNT).
006090 IF TABLECRC (1) = SPACES MOVE CARDCRC TO TABLECRC (1).
006100 MOVE CARDWK TO CARDTABLEA (TABCNT).
006104 IF SOURCEDAT (TABCNT) = SPACES MOVE 'NO AUTHOR ' TO
006106 SOURCEDAT (TABCNT).
006110 IF CARDSEQ IS NOT > SEQKEY MOVE 'SEQUENCING ERROR
006120 TO ERRORA (TABCNT).
006130 MOVE CARDSEQ TO SEQKEY.
006140 MOVE '1' TO OLDCLASS.
006150 COMPUTE TABCNT = TABCNT + 1.
006160 READ KWOC-IN INTO CARDWK AT END MOVE '0' TO CLASSCODE,
006170 ALTER KWOC-STOPPER TO PROCEED TO CLOSE-FILES.
006180 KWOC-EDIT11. EXIT.
007010 KWOC-EDIT2.
007020 MOVE CARDWK TO CARDTABLEA (TABCNT).
007030 IF CARDSEQ IS NOT > SEQKEY MOVE 'SEQUENCING ERROR
007040 TO ERRORA (TABCNT).
007050 MOVE '2' TO OLDCLASS.
007060 COMPUTE TABCNT = TABCNT + 1.
007070 MOVE CARDSEQ TO SEQKEY.
007080 READ KWOC-IN INTO CARDWK AT END MOVE '0' TO CLASSCODE,
007090 ALTER KWOC-STOPPER TO PROCEED TO CLOSE-FILES.
007100 KWOC-EDIT22. EXIT.
007500 KWOC-EDIT3.
007510 MOVE CARDWK TO CARDTABLEA (TABCNT).
007520 COMPUTE TABCNT = TABCNT + 1.
007525 MOVE 'INVALID CARD ' TO ERRORA (TABCNT).
007530 READ KWOC-IN INTO CARDWK AT END MOVE '0' TO CLASSCODE,
007540 ALTER KWOC-STOPPER TO PROCEED TO CLOSE-FILES.
007550 KWOC-EDIT33. EXIT.
008010 KWOC-WRITE1.
008020 MOVE CARDTABLEA (TAB) TO PRINT-CARD.
008030 MOVE TABLECRC (1) TO PNTCRC.
008040 MOVE SURFLD (1) TO PNTSUR.
008050 MOVE ERRORA (TAB) TO ERRMES.
008060 KWOC-WRITE2.
008070 GO TO KWOC-WRITE3.
008080 KWOC-WRITE3.
008090 WRITE KWOCOUT-RECORD FROM PRINT-CARD.
008100 KWOC-PRINT.
008110 WRITE PRINT-RECORD FROM PRINT-WORK AFTER 1.
008120 KWOC-WRITE9. EXIT.
009010 KWOC-EDITA.
009020 MOVE CARDWK TO PRINT-CARD.
009030 MOVE 'NON-NUMERIC CLASSCODE' TO ERRMES.
009040 WRITE PRINT-RECORD FROM PRINT-WORK AFTER 1.
009050 READ KWOC-IN RECORD INTO CARDWK AT END
009060 MOVE '0' TO CLASSCODE,
009070 ALTER KWOC-STOPPER TO PROCEED TO CLOSE-FILES.
009080 KWOC-EDITAA. EXIT.
009090 ASTERISKSI.
009100 IF ERRORA (TAB) = SPACES MOVE
009110 '*****' TO ERRORA (TAB).
009120 ASTERISKSI2. EXIT.
010010 TAPE-COPY-01.
010020 MOVE TAPEREC TO PRINT-CARD.
010030 WRITE KWOCOUT-RECORD FROM PRINT-CARD.
010050 READ KWOC-INB INTO TAPEREC AT END MOVE '99999' TO SORTED,
010060 MOVE '9999999' TO USERNUMBER.

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010070 TAPE-COPY-10.      EXIT.
010080 TAPE-SPACE-01.
010090     MOVE TAPEEC TO PRINT-CARD.
010100     WRITE PRINT-RECORD FROM PRINT-WORK AFTER 1.
010110     READ KWUC-INH INTO TAPEEC AT END MOVE '99999' TO SORTED,
010120         MOVE '999999' TO USERNUMBER.
010130 TAPE-SPACE-02.      EXIT.
020010 WHAT-TU-001.
020020     IF CHANGEFLAG IS NOT = 'D' GO TO WHAT-TU-002.
020030     IF USERNO IS NOT = USERNUMBER OR USERSURT IS NOT = SORTED
020040         MOVE 'NOT FOUND IN DATA SET' TO ERRORA (1),
020050         GO TO WHAT-TU-009.
020060     MOVE 'DELETED FROM DATA SET' TO ERRMES, COMPUTE TABCNT = 1.
020070     PERFORM TAPE-SPACE-01 THRU TAPE-SPACE-02 UNTIL
020080         SORTED IS NOT = USERSURT.
020090     GO TO WHAT-TU-009.
020100 WHAT-TU-002.
020110     IF CHANGEFLAG IS NOT = 'R' GO TO WHAT-TU-003.
020120     IF USERNO IS NOT = USERNUMBER OR USERSURT IS NOT = SORTED
020130         MOVE 'NOT FOUND IN DATA SET' TO ERRORA (1),
020140         GO TO WHAT-TU-009.
020150     IF ERRORS IS NOT = SPACES GO TO WHAT-TU-009.
020160     MOVE 'REPLACED BY FOLLOWING' TO ERRMES.
020170     PERFORM TAPE-SPACE-01 THRU TAPE-SPACE-02 UNTIL
020180         SORTED IS NOT = USERSURT.
020190     GO TO WHAT-TU-009.
020200 WHAT-TU-003.
020210     IF CHANGEFLAG IS NOT = 'A' GO TO WHAT-TU-008.
020220     IF USERNO = USERNUMBER AND USERSURT = SORTED
020230         MOVE 'FOUND DUPLICATE # ' TO ERRORA (1).
020240     GO TO WHAT-TU-009.
020250 WHAT-TU-008.
020260     MOVE 'CHECK COL. 61 ' TO ERRORA (1).
020270 WHAT-TU-009.      EXIT.
/END

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*****
***** PROGRAM KWUC-C *****
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//STEP2 EXEC CUBFCLG,PARM.CUB='MAP',TIME.GU=10
//CUB.SYSIN DD *
010010 IDENTIFICATION DIVISION. KWUC
010020 PROGRAM-ID. 'KWUC'. KWUC
010030 AUTHOR. JOHN K. JORDAN. KWUC
010040 INSTALLATION. AMES LABORATORY, USAEC, IOWA STATE UNIVERSITY, KWUC
010050 AMES, IOWA. KWUC
010060 SECURITY. THIS PROGRAM WAS WRITTEN AS AN ACCOUNT OF GOVERNMENT KWUC
010070 SPONSORED WORK. THIS PROGRAM DOES NOT QUALIFY FOR SECURITY KWUC
010080 REGULATIONS. KWUC
010090 REMARKS. THIS PROGRAM IS STEP 2 (OR STEP 3 IF CORRECTIONS TO THE KWUC
010100 INPUT MUST BE MADE) OF THE KWUC (KEY WORD OUT OF CONTEXT) KWUC
010110 PROGRAMS. KWUC
020010 ENVIRONMENT DIVISION. KWUC
020030 CONFIGURATION SECTION. KWUC
020040 SOURCE-COMPUTER. IBM-360 H50. KWUC
020050 OBJECT-COMPUTER. IBM-360 H50. KWUC
020070 INPUT-OUTPUT SECTION. KWUC
020080 FILE-CONTROL. KWUC
020090 SELECT KWUCABC-FILE ASSIGN TO 'KWUCABC' UTILITY. KWUC
020100 SELECT KWUCCCI-FILE ASSIGN TO 'KWUCCCI' UTILITY. KWUC
020110 SELECT KWUCCDI-FILE ASSIGN TO 'KWUCCDI' UTILITY. KWUC
030010 DATA DIVISION. KWUC
030020 FILE SECTION. KWUC
030030 FD KWUCABC-FILE KWUC
030040 RECORDING MODE IS F KWUC
030050 LABEL RECORDS ARE OMITTED KWUC
030060 RECORD CONTAINS 80 CHARACTERS KWUC
030070 BLOCK CONTAINS 45 RECORDS KWUC
030080 DATA RECORD IS KWUCABC-REC. KWUC
030090 01 KWUCABC-REC PICTURE X(80). KWUC
030110 FD KWUCCCI-FILE KWUC
030120 RECORDING MODE IS F KWUC
030130 LABEL RECORDS ARE STANDARD KWUC
030140 RECORD CONTAINS 80 CHARACTERS KWUC
030150 BLOCK CONTAINS 0 RECORDS KWUC
030160 01 KWUCCCI-REC PICTURE X(80). KWUC
030180 01 KWUCCDI-FILE KWUC
030190 RECORDING MODE IS F KWUC

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030200	LABEL RECORDS ARE STANDARD	KWUCC
030210	RECORD CONTAINS 134 CHARACTERS	KWUCC
030220	BLOCK CONTAINS 20 RECORDS	KWUCC
030230	DATA RECORD IS KWUCCD1-REC.	KWUCC
030240	01 KWUCCD1-REC PICTURE X(134).	KWUCC
030250	WORKING-STORAGE SECTION.	KWUCC
040010	01 KWUCABC-IN.	KWUCC
040020	02 KWUCABC-60 PICTURE X(60).	KWUCC
040030	02 FILLER PICTURE X(14).	KWUCC
040040	02 CLASS-CODE PICTURE X.	KWUCC
040050	88 HEADER-CLASS VALUE '0'.	KWUCC
040060	88 AUTHOR-CLASS VALUE '1'.	KWUCC
040070	88 TITLE-CLASS VALUE '2'.	KWUCC
040080	88 SOURCE-CLASS VALUE '3'.	KWUCC
040085	88 ABSTRACT-CLASS VALUE '5'.	KWUCC
040090	88 TRAILER-CLASS VALUE '9'.	KWUCC
040100	02 FILLER PICTURE X(5).	KWUCC
040101	01 EOF-KWUCABC-SW PICTURE X.	KWUCC
040102	88 EOF-KWUCABC-FILE VALUE 'Y'.	KWUCC
040110	01 FILLER.	KWUCC
040120	02 HEADER-CARD.	KWUCC
040130	03 USER-NO PICTURE X(7).	KWUCC
040140	03 USER-NAME PICTURE X(20).	KWUCC
040150	03 USER-ADDRESS PICTURE X(28).	KWUCC
040160	03 PUNCH-SWITCH PICTURE X.	KWUCC
040170	88 PUNCH-YES VALUE '1'.	KWUCC
040180	03 DATE PICTURE X(4).	KWUCC
040190	03 FILLER PICTURE X.	KWUCC
040200	03 CROSS-REF-NO PICTURE X(11).	KWUCC
040210	03 FILLER PICTURE X(8).	KWUCC
050010	01 TEXT-DATA.	KWUCC
050020	02 TEXT-CARD-COUNT PICTURE S99 USAGE COMPUTATIONAL.	KWUCC
050040	02 TYPE-TEXT-SW PICTURE X.	KWUCC
050050	88 AUTHOR-TEXT VALUE '1'.	KWUCC
050060	88 TITLE-TEXT VALUE '2'.	KWUCC
050070	88 SOURCE-TEXT VALUE '3'.	KWUCC
050075	88 ABSTRACT-TEXT VALUE '5'.	KWUCC
050080	88 TRAILER-TEXT VALUE '9'.	KWUCC
050090	02 TEXT-CARDS.	KWUCC
050100	03 TEXT-CHAR OCCURS 540 TIMES PICTURE X.	KWUCC
050101	01 TEXT-DATA-FILLER PICTURE X VALUE SPACE.	KWUCC
050102	01 S PICTURE S99 USAGE COMPUTATIONAL.	KWUCC
050103	01 T PICTURE X.	KWUCC
050110	01 TRANSFORMED-TEXT-DATA.	KWUCC
050120	02 TEXT-LIMIT PICTURE S99 USAGE COMPUTATIONAL.	KWUCC
050130	02 TEXT-RECORD-COUNT PICTURE S99 USAGE COMPUTATIONAL.	KWUCC
050140	02 TEXT-RECORD.	KWUCC
050150	03 TEXT-100 OCCURS 6 TIMES PICTURE X(100).	KWUCC
050160	02 TEXT-100-WORK.	KWUCC
050170	03 TEXT-100-CHAR OCCURS 100 TIMES PICTURE X.	KWUCC
050180	02 FILLER REDEFINES TEXT-100-WORK.	KWUCC
050190	03 TEXT-20 OCCURS 5 TIMES PICTURE X(20).	KWUCC
050210	01 TEXT-WORD.	KWUCC
050220	02 WORD-CHAR OCCURS 100 TIMES PICTURE X.	KWUCC
050221	01 FILLER REDEFINES TEXT-WORD.	KWUCC
050222	02 TEXT-WORD-15 PICTURE X(15).	KWUCC
050223	02 FILLER PICTURE X(85).	KWUCC
060010	01 AUTHOR-DATA.	KWUCC
060020	02 AUTHOR-CARD-COUNT PICTURE S99 USAGE COMPUTATIONAL.	KWUCC
060040	02 FILLER PICTURE X VALUE '1'.	KWUCC
060050	02 AUTHOR-AREA.	KWUCC
060060	03 AUTHOR-60 OCCURS 9 TIMES PICTURE X(60).	KWUCC
060070	02 FILLER REDEFINES AUTHOR-AREA.	KWUCC
060080	03 AUTHOR-NAME OCCURS 27 TIMES PICTURE X(20).	KWUCC
060100	01 TITLE-DATA.	KWUCC
060110	02 TITLE-CARD-COUNT PICTURE S99 USAGE COMPUTATIONAL.	KWUCC
060130	02 FILLER PICTURE X VALUE '2'.	KWUCC
060135	02 TITLE-AREA.	KWUCC
060140	03 TITLE-60 OCCURS 9 TIMES PICTURE X(60).	KWUCC
060160	01 SOURCE-DATA.	KWUCC
060170	02 SOURCE-CARD-COUNT PICTURE S99 USAGE COMPUTATIONAL.	KWUCC
060180	02 FILLER PICTURE X VALUE '3'.	KWUCC
06195	02 SOURCE-AREA.	KWUCC
060190	03 SOURCE-60 OCCURS 9 TIMES PICTURE X(60).	KWUCC
060200	01 ABSTRACT-DATA.	KWUCC
060201	02 ABSTRACT-CARD-COUNT PICTURE S99 USAGE COMPUTATIONAL.	KWUCC
060202	02 FILLER PICTURE X VALUE '5'.	KWUCC
060203	02 ABSTRACT-AREA.	KWUCC
060204	03 ABSTRACT-60 OCCURS 9 TIMES PICTURE X(60).	KWUCC
060210	01 TRAILER-DATA.	KWUCC
060220	02 TRAILER-CARD-COUNT PICTURE S99 USAGE COMPUTATIONAL.	KWUCC

060230	02	FILLER	PICTURE X VALUE '9'.	KWUCC
060235	02	TRAILER-AREA.		
060240	03	TRAILER-60 OCCURS 9 TIMES	PICTURE X(60).	KWUCC
070100	01	KWUCCD1-HEADER-A.		KWUCC
070110	02	USER-NO	PICTURE X(7).	KWUCC
070120	02	FILLER	PICTURE X VALUE 'A'.	KWUCC
070130	02	CARD-IMAGE	PICTURE X(80).	KWUCC
070140	02	FILLER	PICTURE X(46) VALUE SPACE.	KWUCC
070160	01	KWUCCD1-AUTHOR-B.		KWUCC
070170	02	USER-NO	PICTURE X(7).	KWUCC
070180	02	FILLER	PICTURE X VALUE 'B'.	KWUCC
070190	02	CROSS-REF-NO	PICTURE X(11).	KWUCC
070200	02	FILLER	PICTURE X VALUE '1'.	KWUCC
070210	02	SEQ-NO	PICTURE 99.	KWUCC
070220	02	AUTHOR-REC.		KWUCC
070230	03	AUTHORS-OUT OCCURS 5 TIMES	PICTURE X(20).	KWUCC
070240	02	FILLER	PICTURE X(12) VALUE SPACE.	KWUCC
080010	01	KWUCCD1-TITLE-B.		KWUCC
080020	02	USER-NO	PICTURE X(7).	KWUCC
080030	02	FILLER	PICTURE X VALUE 'B'.	KWUCC
080040	02	CROSS-REF-NO	PICTURE X(11).	KWUCC
080050	02	FILLER	PICTURE X VALUE '2'.	KWUCC
080060	02	SEQ-NO	PICTURE 99.	KWUCC
080070	02	TITLE-REC	PICTURE X(100).	KWUCC
080080	02	FILLER	PICTURE X(12) VALUE SPACE.	KWUCC
080100	01	KWUCCD1-SOURCE-B.		KWUCC
080110	02	USER-NO	PICTURE X(7).	KWUCC
080120	02	FILLER	PICTURE X VALUE 'B'.	KWUCC
080130	02	CROSS-REF-NO	PICTURE X(11).	KWUCC
080140	02	FILLER	PICTURE X VALUE '3'.	KWUCC
080150	02	SEQ-NO	PICTURE 99.	KWUCC
080160	02	SOURCE-REC	PICTURE X(100).	KWUCC
080170	02	FILLER	PICTURE X(12) VALUE SPACE.	KWUCC
080171	01	KWUCCD1-ABSTRACT-B.		KWUCC
080172	02	USER-NO	PICTURE X(7).	KWUCC
080173	02	FILLER	PICTURE X VALUE 'B'.	KWUCC
080174	02	CROSS-REF-NO	PICTURE X(11).	KWUCC
080175	02	FILLER	PICTURE X VALUE '5'.	KWUCC
080176	02	SEQ-NO	PICTURE 99.	KWUCC
080177	02	ABSTRACT-REC	PICTURE X(100).	KWUCC
080178	02	FILLER	PICTURE X(12) VALUE SPACE.	KWUCC
080190	01	KWUCCD1-TRAILER-B.		KWUCC
080200	02	USER-NO	PICTURE X(7).	KWUCC
080210	02	FILLER	PICTURE X VALUE 'B'.	KWUCC
080220	02	CROSS-REF-NO	PICTURE X(11).	KWUCC
080230	02	FILLER	PICTURE X VALUE '2'.	KWUCC
080240	02	SEQ-NO	PICTURE 99.	KWUCC
080250	02	TRAILER-REC	PICTURE X(100).	KWUCC
090010	02	FILLER	PICTURE X(12) VALUE SPACE.	KWUCC
090030	01	KWUCCD1-AUTHOR-C.		KWUCC
090040	02	USER-NO	PICTURE X(7).	KWUCC
090050	02	FILLER	PICTURE X VALUE 'C'.	KWUCC
090060	02	AUTHOR-NAME-C	PICTURE X(20).	KWUCC
090070	02	CROSS-REF-NO	PICTURE X(11).	KWUCC
090080	02	FILLER	PICTURE X(95) VALUE SPACE.	KWUCC
090100	01	KWUCCD1-KWUC-D.		KWUCC
090110	02	USER-NO	PICTURE X(7).	KWUCC
090120	02	FILLER	PICTURE X VALUE 'D'.	KWUCC
090130	02	KEY-WORD	PICTURE X(15).	KWUCC
090135	02	CROSS-REF-NO	PICTURE X(11).	KWUCC
090140	02	TITLE	PICTURE X(100).	KWUCC
100010	01	KWUCCD1-WORK.		KWUCC
100020	02	FILLER	PICTURE X(61).	KWUCC
100030	02	CROSS-REF-NO	PICTURE X(11).	KWUCC
100040	02	FILLER	PICTURE X(8).	KWUCC
100060	01	FILLER.		KWUCC
100070	02	KEYWORD OCCURS 100 TIMES	PICTURE X(15).	KWUCC
110010	01	MISC-COUNTERS.		KWUCC
110020	02	NO-KEYWORDS	PICTURE S999 USAGE COMPUTATIONAL.	KWUCC
110030	02	I	PICTURE S999 USAGE COMPUTATIONAL.	KWUCC
110040	02	J	PICTURE S999 USAGE COMPUTATIONAL.	KWUCC
110050	02	K	PICTURE S999 USAGE COMPUTATIONAL.	KWUCC
110060	02	L	PICTURE S999 USAGE COMPUTATIONAL.	KWUCC
110070	02	M	PICTURE S999 USAGE COMPUTATIONAL.	KWUCC
110080	02	N	PICTURE S999 USAGE COMPUTATIONAL.	KWUCC
110130	02	NO-AUTHORS	PICTURE S999 USAGE COMPUTATIONAL.	KWUCC
110140	02	DELTA	PICTURE S999 USAGE COMPUTATIONAL.	KWUCC
110150	02	POINT	PICTURE S999 USAGE COMPUTATIONAL.	KWUCC
120010	01	FILLER.		KWUCC
120020	02	STOP-WORD-TABLE.		KWUCC
120030	03	FILLER	PICTURE X(15) VALUE 'A'.	KWUCC
120040	03	FILLER	PICTURE X(15) VALUE 'ABER'.	KWUCC

120050	03	FILLER	PICTURE X(15)	VALUE	'ABOUT	..	KWUCC
120060	03	FILLER	PICTURE X(15)	VALUE	'ACCORD	..	KWUCC
120070	03	FILLER	PICTURE X(15)	VALUE	'ACCORDING	..	KWUCC
120080	03	FILLER	PICTURE X(15)	VALUE	'ACROSS	..	KWUCC
120090	03	FILLER	PICTURE X(15)	VALUE	'AFTER	..	KWUCC
120100	03	FILLER	PICTURE X(15)	VALUE	'AGAIN	..	KWUCC
120110	03	FILLER	PICTURE X(15)	VALUE	'ALL	..	KWUCC
120120	03	FILLER	PICTURE X(15)	VALUE	'ALLES	..	KWUCC
120130	03	FILLER	PICTURE X(15)	VALUE	'ALONE	..	KWUCC
120140	03	FILLER	PICTURE X(15)	VALUE	'ALONG	..	KWUCC
120150	03	FILLER	PICTURE X(15)	VALUE	'ALS	..	KWUCC
120160	03	FILLER	PICTURE X(15)	VALUE	'ALSO	..	KWUCC
120170	03	FILLER	PICTURE X(15)	VALUE	'AM	..	KWUCC
120180	03	FILLER	PICTURE X(15)	VALUE	'AMONG	..	KWUCC
120190	03	FILLER	PICTURE X(15)	VALUE	'AMONGEST	..	KWUCC
120200	03	FILLER	PICTURE X(15)	VALUE	'AN	..	KWUCC
120210	03	FILLER	PICTURE X(15)	VALUE	'AND	..	KWUCC
120220	03	FILLER	PICTURE X(15)	VALUE	'ANS	..	KWUCC
120230	03	FILLER	PICTURE X(15)	VALUE	'ANSWER	..	KWUCC
120240	03	FILLER	PICTURE X(15)	VALUE	'ANY	..	KWUCC
120250	03	FILLER	PICTURE X(15)	VALUE	'APART	..	KWUCC
130010	03	FILLER	PICTURE X(15)	VALUE	'ARE	..	KWUCC
130020	03	FILLER	PICTURE X(15)	VALUE	'AROUND	..	KWUCC
130030	03	FILLER	PICTURE X(15)	VALUE	'AS	..	KWUCC
130040	03	FILLER	PICTURE X(15)	VALUE	'AT	..	KWUCC
130050	03	FILLER	PICTURE X(15)	VALUE	'AUF	..	KWUCC
130060	03	FILLER	PICTURE X(15)	VALUE	'AUS	..	KWUCC
130070	03	FILLER	PICTURE X(15)	VALUE	'AWAY	..	KWUCC
130080	03	FILLER	PICTURE X(15)	VALUE	'BECAME	..	KWUCC
130090	03	FILLER	PICTURE X(15)	VALUE	'BEEN	..	KWUCC
130100	03	FILLER	PICTURE X(15)	VALUE	'BEFORE	..	KWUCC
130110	03	FILLER	PICTURE X(15)	VALUE	'BEGAN	..	KWUCC
130120	03	FILLER	PICTURE X(15)	VALUE	'BEGIN	..	KWUCC
130130	03	FILLER	PICTURE X(15)	VALUE	'BEGINS	..	KWUCC
130140	03	FILLER	PICTURE X(15)	VALUE	'BEGUN	..	KWUCC
130150	03	FILLER	PICTURE X(15)	VALUE	'BEI	..	KWUCC
130160	03	FILLER	PICTURE X(15)	VALUE	'BEIM	..	KWUCC
130170	03	FILLER	PICTURE X(15)	VALUE	'BESIDE	..	KWUCC
130180	03	FILLER	PICTURE X(15)	VALUE	'BESIDES	..	KWUCC
130190	03	FILLER	PICTURE X(15)	VALUE	'BEST	..	KWUCC
130200	03	FILLER	PICTURE X(15)	VALUE	'BETTER	..	KWUCC
130210	03	FILLER	PICTURE X(15)	VALUE	'BETWEEN	..	KWUCC
130220	03	FILLER	PICTURE X(15)	VALUE	'BEYOND	..	KWUCC
130230	03	FILLER	PICTURE X(15)	VALUE	'BIG	..	KWUCC
130240	03	FILLER	PICTURE X(15)	VALUE	'BOOK	..	KWUCC
130250	03	FILLER	PICTURE X(15)	VALUE	'BOTH	..	KWUCC
140010	03	FILLER	PICTURE X(15)	VALUE	'BUT	..	KWUCC
140020	03	FILLER	PICTURE X(15)	VALUE	'BY	..	KWUCC
140030	03	FILLER	PICTURE X(15)	VALUE	'CAN	..	KWUCC
140040	03	FILLER	PICTURE X(15)	VALUE	'CAME	..	KWUCC
140050	03	FILLER	PICTURE X(15)	VALUE	'COULD	..	KWUCC
140060	03	FILLER	PICTURE X(15)	VALUE	'DA	..	KWUCC
140070	03	FILLER	PICTURE X(15)	VALUE	'DANN	..	KWUCC
140080	03	FILLER	PICTURE X(15)	VALUE	'DAS	..	KWUCC
140090	03	FILLER	PICTURE X(15)	VALUE	'DATE	..	KWUCC
140100	03	FILLER	PICTURE X(15)	VALUE	'DEM	..	KWUCC
140110	03	FILLER	PICTURE X(15)	VALUE	'DEN	..	KWUCC
140120	03	FILLER	PICTURE X(15)	VALUE	'DENN	..	KWUCC
140130	03	FILLER	PICTURE X(15)	VALUE	'DEPT	..	KWUCC
140140	03	FILLER	PICTURE X(15)	VALUE	'DER	..	KWUCC
140150	03	FILLER	PICTURE X(15)	VALUE	'DES	..	KWUCC
140160	03	FILLER	PICTURE X(15)	VALUE	'DUES	..	KWUCC
140170	03	FILLER	PICTURE X(15)	VALUE	'DURING	..	KWUCC
140180	03	FILLER	PICTURE X(15)	VALUE	'DONE	..	KWUCC
140190	03	FILLER	PICTURE X(15)	VALUE	'DUE	..	KWUCC
140200	03	FILLER	PICTURE X(15)	VALUE	'DURING	..	KWUCC
140210	03	FILLER	PICTURE X(15)	VALUE	'EACH	..	KWUCC
140220	03	FILLER	PICTURE X(15)	VALUE	'EASY	..	KWUCC
140230	03	FILLER	PICTURE X(15)	VALUE	'EIN	..	KWUCC
140240	03	FILLER	PICTURE X(15)	VALUE	'EINE	..	KWUCC
140250	03	FILLER	PICTURE X(15)	VALUE	'EITHER	..	KWUCC
150010	03	FILLER	PICTURE X(15)	VALUE	'ENTER	..	KWUCC
150020	03	FILLER	PICTURE X(15)	VALUE	'ES	..	KWUCC
150030	03	FILLER	PICTURE X(15)	VALUE	'ETC	..	KWUCC
150040	03	FILLER	PICTURE X(15)	VALUE	'ETWAS	..	KWUCC
150050	03	FILLER	PICTURE X(15)	VALUE	'EVEN	..	KWUCC
150060	03	FILLER	PICTURE X(15)	VALUE	'EVER	..	KWUCC
150070	03	FILLER	PICTURE X(15)	VALUE	'EVERY	..	KWUCC
150080	03	FILLER	PICTURE X(15)	VALUE	'FAK	..	KWUCC
150090	03	FILLER	PICTURE X(15)	VALUE	'FOR	..	KWUCC
150100	03	FILLER	PICTURE X(15)	VALUE	'FROM	..	KWUCC

150110	03	FILLER	PICTURE X(15)	VALUE	'GET	'.	KWUCC
150120	03	FILLER	PICTURE X(15)	VALUE	'GETS	'.	KWUCC
150130	03	FILLER	PICTURE X(15)	VALUE	'GIVE	'.	KWUCC
150140	03	FILLER	PICTURE X(15)	VALUE	'GIVEN	'.	KWUCC
150150	03	FILLER	PICTURE X(15)	VALUE	'GIVES	'.	KWUCC
150160	03	FILLER	PICTURE X(15)	VALUE	'GIVING	'.	KWUCC
150170	03	FILLER	PICTURE X(15)	VALUE	'GUES	'.	KWUCC
150180	03	FILLER	PICTURE X(15)	VALUE	'GOING	'.	KWUCC
150190	03	FILLER	PICTURE X(15)	VALUE	'GONE	'.	KWUCC
150200	03	FILLER	PICTURE X(15)	VALUE	'GOOD	'.	KWUCC
150210	03	FILLER	PICTURE X(15)	VALUE	'HAD	'.	KWUCC
150220	03	FILLER	PICTURE X(15)	VALUE	'HAS	'.	KWUCC
150230	03	FILLER	PICTURE X(15)	VALUE	'HAVE	'.	KWUCC
150240	03	FILLER	PICTURE X(15)	VALUE	'HAVING	'.	KWUCC
150250	03	FILLER	PICTURE X(15)	VALUE	'HER	'.	KWUCC
160010	03	FILLER	PICTURE X(15)	VALUE	'HERE	'.	KWUCC
160020	03	FILLER	PICTURE X(15)	VALUE	'HERES	'.	KWUCC
160030	03	FILLER	PICTURE X(15)	VALUE	'HIN	'.	KWUCC
160040	03	FILLER	PICTURE X(15)	VALUE	'HIM	'.	KWUCC
160050	03	FILLER	PICTURE X(15)	VALUE	'IF	'.	KWUCC
160060	03	FILLER	PICTURE X(15)	VALUE	'IM	'.	KWUCC
160070	03	FILLER	PICTURE X(15)	VALUE	'IN	'.	KWUCC
160080	03	FILLER	PICTURE X(15)	VALUE	'INI	'.	KWUCC
160090	03	FILLER	PICTURE X(15)	VALUE	'INS	'.	KWUCC
160100	03	FILLER	PICTURE X(15)	VALUE	'IS	'.	KWUCC
160110	03	FILLER	PICTURE X(15)	VALUE	'IST	'.	KWUCC
160120	03	FILLER	PICTURE X(15)	VALUE	'IT	'.	KWUCC
160130	03	FILLER	PICTURE X(15)	VALUE	'ITS	'.	KWUCC
160140	03	FILLER	PICTURE X(15)	VALUE	'MAL	'.	KWUCC
160150	03	FILLER	PICTURE X(15)	VALUE	'MAY	'.	KWUCC
160160	03	FILLER	PICTURE X(15)	VALUE	'MEHR	'.	KWUCC
160170	03	FILLER	PICTURE X(15)	VALUE	'MIGHT	'.	KWUCC
160180	03	FILLER	PICTURE X(15)	VALUE	'MIT	'.	KWUCC
160190	03	FILLER	PICTURE X(15)	VALUE	'MORE	'.	KWUCC
160200	03	FILLER	PICTURE X(15)	VALUE	'MOST	'.	KWUCC
160210	03	FILLER	PICTURE X(15)	VALUE	'MOSTLY	'.	KWUCC
160220	03	FILLER	PICTURE X(15)	VALUE	'MUCH	'.	KWUCC
160230	03	FILLER	PICTURE X(15)	VALUE	'NEAR	'.	KWUCC
160240	03	FILLER	PICTURE X(15)	VALUE	'NEXT	'.	KWUCC
160250	03	FILLER	PICTURE X(15)	VALUE	'NIE	'.	KWUCC
170010	03	FILLER	PICTURE X(15)	VALUE	'NI	'.	KWUCC
170020	03	FILLER	PICTURE X(15)	VALUE	'NICH	'.	KWUCC
170030	03	FILLER	PICTURE X(15)	VALUE	'NINE	'.	KWUCC
170040	03	FILLER	PICTURE X(15)	VALUE	'NIT	'.	KWUCC
170050	03	FILLER	PICTURE X(15)	VALUE	'NITE	'.	KWUCC
170060	03	FILLER	PICTURE X(15)	VALUE	'NITED	'.	KWUCC
170070	03	FILLER	PICTURE X(15)	VALUE	'NITES	'.	KWUCC
170080	03	FILLER	PICTURE X(15)	VALUE	'NOW	'.	KWUCC
170090	03	FILLER	PICTURE X(15)	VALUE	'ODER	'.	KWUCC
170100	03	FILLER	PICTURE X(15)	VALUE	'OF	'.	KWUCC
170110	03	FILLER	PICTURE X(15)	VALUE	'OFF	'.	KWUCC
170120	03	FILLER	PICTURE X(15)	VALUE	'OFTEN	'.	KWUCC
170130	03	FILLER	PICTURE X(15)	VALUE	'OHNE	'.	KWUCC
170140	03	FILLER	PICTURE X(15)	VALUE	'ON	'.	KWUCC
170150	03	FILLER	PICTURE X(15)	VALUE	'ONLY	'.	KWUCC
170160	03	FILLER	PICTURE X(15)	VALUE	'ONSET	'.	KWUCC
170170	03	FILLER	PICTURE X(15)	VALUE	'OR	'.	KWUCC
170180	03	FILLER	PICTURE X(15)	VALUE	'OTHER	'.	KWUCC
170190	03	FILLER	PICTURE X(15)	VALUE	'OTHERS	'.	KWUCC
170200	03	FILLER	PICTURE X(15)	VALUE	'OTHERWISE	'.	KWUCC
170210	03	FILLER	PICTURE X(15)	VALUE	'OUR	'.	KWUCC
170220	03	FILLER	PICTURE X(15)	VALUE	'OUT	'.	KWUCC
170230	03	FILLER	PICTURE X(15)	VALUE	'OUTCOME	'.	KWUCC
170240	03	FILLER	PICTURE X(15)	VALUE	'OUTLINE	'.	KWUCC
170250	03	FILLER	PICTURE X(15)	VALUE	'OVER	'.	KWUCC
180010	03	FILLER	PICTURE X(15)	VALUE	'OVERCOME	'.	KWUCC
180020	03	FILLER	PICTURE X(15)	VALUE	'OWN	'.	KWUCC
180030	03	FILLER	PICTURE X(15)	VALUE	'PER	'.	KWUCC
180040	03	FILLER	PICTURE X(15)	VALUE	'PLACE	'.	KWUCC
180050	03	FILLER	PICTURE X(15)	VALUE	'PLAN	'.	KWUCC
180060	03	FILLER	PICTURE X(15)	VALUE	'POUR	'.	KWUCC
180070	03	FILLER	PICTURE X(15)	VALUE	'PROVE	'.	KWUCC
180080	03	FILLER	PICTURE X(15)	VALUE	'PROVED	'.	KWUCC
180090	03	FILLER	PICTURE X(15)	VALUE	'PU	'.	KWUCC
180100	03	FILLER	PICTURE X(15)	VALUE	'READ	'.	KWUCC
180110	03	FILLER	PICTURE X(15)	VALUE	'REALLY	'.	KWUCC
180120	03	FILLER	PICTURE X(15)	VALUE	'RESULTING	'.	KWUCC
180130	03	FILLER	PICTURE X(15)	VALUE	'REVISED	'.	KWUCC
180140	03	FILLER	PICTURE X(15)	VALUE	'SAFE	'.	KWUCC
180150	03	FILLER	PICTURE X(15)	VALUE	'SAME	'.	KWUCC
180160	03	FILLER	PICTURE X(15)	VALUE	'SAVE	'.	KWUCC

180170	03	FILLER	PICTURE X(15)	VALUE	'SAVED	..	KW0CC
180180	03	FILLER	PICTURE X(15)	VALUE	'SAVING	..	KW0CC
180190	03	FILLER	PICTURE X(15)	VALUE	'SCHON	..	KW0CC
180200	03	FILLER	PICTURE X(15)	VALUE	'SEE	..	KW0CC
180210	03	FILLER	PICTURE X(15)	VALUE	'SEEN	..	KW0CC
180220	03	FILLER	PICTURE X(15)	VALUE	'SEHR	..	KW0CC
180230	03	FILLER	PICTURE X(15)	VALUE	'SEIT	..	KW0CC
180240	03	FILLER	PICTURE X(15)	VALUE	'SEND	..	KW0CC
180250	03	FILLER	PICTURE X(15)	VALUE	'SENDING	..	KW0CC
190010	03	FILLER	PICTURE X(15)	VALUE	'SHOULD	..	KW0CC
190020	03	FILLER	PICTURE X(15)	VALUE	'SHOW	..	KW0CC
190030	03	FILLER	PICTURE X(15)	VALUE	'SHOWED	..	KW0CC
190040	03	FILLER	PICTURE X(15)	VALUE	'SHOWING	..	KW0CC
190050	03	FILLER	PICTURE X(15)	VALUE	'SHOWN	..	KW0CC
190060	03	FILLER	PICTURE X(15)	VALUE	'SHOWS	..	KW0CC
190070	03	FILLER	PICTURE X(15)	VALUE	'SMALL	..	KW0CC
190080	03	FILLER	PICTURE X(15)	VALUE	'SOME	..	KW0CC
190090	03	FILLER	PICTURE X(15)	VALUE	'SOON	..	KW0CC
190100	03	FILLER	PICTURE X(15)	VALUE	'SUCH	..	KW0CC
190110	03	FILLER	PICTURE X(15)	VALUE	'SUDDEN	..	KW0CC
190120	03	FILLER	PICTURE X(15)	VALUE	'TAKE	..	KW0CC
190130	03	FILLER	PICTURE X(15)	VALUE	'TAKING	..	KW0CC
190140	03	FILLER	PICTURE X(15)	VALUE	'THAN	..	KW0CC
190150	03	FILLER	PICTURE X(15)	VALUE	'THAT	..	KW0CC
190160	03	FILLER	PICTURE X(15)	VALUE	'THE	..	KW0CC
190170	03	FILLER	PICTURE X(15)	VALUE	'THEIR	..	KW0CC
190180	03	FILLER	PICTURE X(15)	VALUE	'THEM	..	KW0CC
190190	03	FILLER	PICTURE X(15)	VALUE	'THEN	..	KW0CC
190200	03	FILLER	PICTURE X(15)	VALUE	'THERE	..	KW0CC
190210	03	FILLER	PICTURE X(15)	VALUE	'THESE	..	KW0CC
190220	03	FILLER	PICTURE X(15)	VALUE	'THEY	..	KW0CC
190230	03	FILLER	PICTURE X(15)	VALUE	'THING	..	KW0CC
190250	03	FILLER	PICTURE X(15)	VALUE	'THIS	..	KW0CC
200010	03	FILLER	PICTURE X(15)	VALUE	'THOSE	..	KW0CC
200020	03	FILLER	PICTURE X(15)	VALUE	'THROUGH	..	KW0CC
200030	03	FILLER	PICTURE X(15)	VALUE	'THROUGHOUT	..	KW0CC
200040	03	FILLER	PICTURE X(15)	VALUE	'TO	..	KW0CC
200050	03	FILLER	PICTURE X(15)	VALUE	'TODAY	..	KW0CC
200060	03	FILLER	PICTURE X(15)	VALUE	'TOGETHER	..	KW0CC
200070	03	FILLER	PICTURE X(15)	VALUE	'TOO	..	KW0CC
200080	03	FILLER	PICTURE X(15)	VALUE	'TRUE	..	KW0CC
200090	03	FILLER	PICTURE X(15)	VALUE	'UBER	..	KW0CC
200100	03	FILLER	PICTURE X(15)	VALUE	'UM	..	KW0CC
200110	03	FILLER	PICTURE X(15)	VALUE	'UMS	..	KW0CC
200120	03	FILLER	PICTURE X(15)	VALUE	'UND	..	KW0CC
200130	03	FILLER	PICTURE X(15)	VALUE	'UNDER	..	KW0CC
200140	03	FILLER	PICTURE X(15)	VALUE	'UNDERGOING	..	KW0CC
200150	03	FILLER	PICTURE X(15)	VALUE	'UNEXPECTED	..	KW0CC
200160	03	FILLER	PICTURE X(15)	VALUE	'UNTER	..	KW0CC
200170	03	FILLER	PICTURE X(15)	VALUE	'UPON	..	KW0CC
200180	03	FILLER	PICTURE X(15)	VALUE	'USE	..	KW0CC
200190	03	FILLER	PICTURE X(15)	VALUE	'USED	..	KW0CC
200200	03	FILLER	PICTURE X(15)	VALUE	'USEFUL	..	KW0CC
200210	03	FILLER	PICTURE X(15)	VALUE	'USES	..	KW0CC
200220	03	FILLER	PICTURE X(15)	VALUE	'USING	..	KW0CC
200230	03	FILLER	PICTURE X(15)	VALUE	'VAST	..	KW0CC
200240	03	FILLER	PICTURE X(15)	VALUE	'VERY	..	KW0CC
200250	03	FILLER	PICTURE X(15)	VALUE	'VIA	..	KW0CC
210010	03	FILLER	PICTURE X(15)	VALUE	'VOM	..	KW0CC
210020	03	FILLER	PICTURE X(15)	VALUE	'VON	..	KW0CC
210030	03	FILLER	PICTURE X(15)	VALUE	'VOR	..	KW0CC
210040	03	FILLER	PICTURE X(15)	VALUE	'VORM	..	KW0CC
210050	03	FILLER	PICTURE X(15)	VALUE	'VORS	..	KW0CC
210060	03	FILLER	PICTURE X(15)	VALUE	'WANN	..	KW0CC
210070	03	FILLER	PICTURE X(15)	VALUE	'WAS	..	KW0CC
210080	03	FILLER	PICTURE X(15)	VALUE	'WAY	..	KW0CC
210090	03	FILLER	PICTURE X(15)	VALUE	'WAYS	..	KW0CC
210100	03	FILLER	PICTURE X(15)	VALUE	'WEG	..	KW0CC
210110	03	FILLER	PICTURE X(15)	VALUE	'WERE	..	KW0CC
210120	03	FILLER	PICTURE X(15)	VALUE	'WHAT	..	KW0CC
210130	03	FILLER	PICTURE X(15)	VALUE	'WHEN	..	KW0CC
210140	03	FILLER	PICTURE X(15)	VALUE	'WHERE	..	KW0CC
210150	03	FILLER	PICTURE X(15)	VALUE	'WATCH	..	KW0CC
210160	03	FILLER	PICTURE X(15)	VALUE	'WHILE	..	KW0CC
210170	03	FILLER	PICTURE X(15)	VALUE	'WHU	..	KW0CC
210180	03	FILLER	PICTURE X(15)	VALUE	'WHOSE	..	KW0CC
210190	03	FILLER	PICTURE X(15)	VALUE	'WHY	..	KW0CC
210200	03	FILLER	PICTURE X(15)	VALUE	'WIE	..	KW0CC
210210	03	FILLER	PICTURE X(15)	VALUE	'WILL	..	KW0CC
210220	03	FILLER	PICTURE X(15)	VALUE	'WITH	..	KW0CC
210230	03	FILLER	PICTURE X(15)	VALUE	'WITHIN	..	KW0CC

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210240      03 FILLER PICTURE X(15) VALUE 'WITHOUT'      ' . KWUCC
210250      03 FILLER PICTURE X(15) VALUE 'WOHL'        ' . KWUCC
220010      03 FILLER PICTURE X(15) VALUE 'WOULD'       ' . KWUCC
220020      03 FILLER PICTURE X(15) VALUE 'WRING'       ' . KWUCC
220030      03 FILLER PICTURE X(15) VALUE 'YET'         ' . KWUCC
220040      03 FILLER PICTURE X(15) VALUE 'YOU'         ' . KWUCC
220050      03 FILLER PICTURE X(15) VALUE 'YOUR'        ' . KWUCC
220060      03 FILLER PICTURE X(15) VALUE 'ZU'          ' . KWUCC
220070      03 FILLER PICTURE X(15) VALUE 'ZUM'         ' . KWUCC
220080      03 FILLER PICTURE X(15) VALUE 'ZUR'         ' . KWUCC
220100      02 FILLER REDEFINES STOP-WORD-TABLE.
220110      03 STOP-WORD OCCURS 255 TIMES PICTURE X(15). KWUCC
230010 PROCEDURE DIVISION. KWUCC
230040 HOUSE-KEEPING. KWUCC
230050 OPEN INPUT KWUCABC-FILE. KWUCC
230060 OPEN OUTPUT KWUCCCI-FILE. KWUCC
230070 OPEN OUTPUT KWUCCDI-FILE. KWUCC
230080 READ KWUCABC-FILE INTO KWUCABC-IN AT END KWUCC
230090 CLOSE KWUCABC-FILE, KWUCCCI-FILE, KWUCCDI-FILE. KWUCC
230100 DISPLAY 'NULL INPUT FILE, END OF KWUCC' UPON CONSOLE. KWUCC
230110 STOP RUN. KWUCC
230111 MOVE 'N' TO EOF-KWUCABC-SW. KWUCC
240010 NEW-DATA-SET. KWUCC
240011 MOVE SPACES TO AUTHOR-AREA, TITLE-AREA, SOURCE-AREA, KWUCC
240012 ABSTRACT-AREA, TRAILER-AREA. KWUCC
240020 MOVE KWUCABC-IN TO HEADER-CARD. KWUCC
240030 MOVE CORRESPONDING HEADER-CARD TO KWUCCDI-HEADER-A, KWUCC
240040 KWUCCDI-AUTHOR-B, KWUCCDI-TITLE-B, KWUCCDI-SOURCE-B, KWUCC
240050 KWUCCDI-TRAILER-M, KWUCCDI-AUTHOR-C, KWUCCDI-KEYWORD-D. KWUCC
240060 MOVE HEADER-CARD TO CARD-IMAGE OF KWUCCDI-HEADER-A. KWUCC
240080 MOVE ZERO TO AUTHOR-CARD-COUNT, TITLE-CARD-COUNT, KWUCC
240090 SOURCE-CARD-COUNT, ABSTRACT-CARD-COUNT, TRAILER-CARD-COUNT. KWUCC
240150 READ-DATA-SET. KWUCC
250011 IF PUNCH=9 YES MOVE KWUCABC-IN TO KWUCCCI-WORK, KWUCC
250013 WRITE KWUCCCI-REC FROM KWUCCCI-WORK. KWUCC
250020 READ KWUCABC-FILE INTO KWUCABC-IN AT END MOVE 'Y' TO KWUCC
250030 EOF-KWUCABC-SW GO TO PROCESS-DATA-SET. KWUCC
250040 IF HEADER-CLASS GO TO PROCESS-DATA-SET. KWUCC
250050 IF AUTHOR-CLASS ADD 1 TO AUTHOR-CARD-COUNT, MOVE KWUCABC-60 KWUCC
250060 TO AUTHOR-60 (AUTHOR-CARD-COUNT), GO TO READ-DATA-SET. KWUCC
250070 IF TITLE-CLASS ADD 1 TO TITLE-CARD-COUNT, MOVE KWUCABC-60 KWUCC
250080 TO TITLE-60 (TITLE-CARD-COUNT), GO TO READ-DATA-SET. KWUCC
250081 IF ABSTRACT-CLASS ADD 1 TO ABSTRACT-CARD-COUNT, KWUCC
250082 MOVE KWUCABC-60 TO ABSTRACT-60 (ABSTRACT-CARD-COUNT), KWUCC
250083 GO TO READ-DATA-SET. KWUCC
250090 IF SOURCE-CLASS ADD 1 TO SOURCE-CARD-COUNT, MOVE KWUCABC-60 KWUCC
250100 TO SOURCE-60 (SOURCE-CARD-COUNT), GO TO READ-DATA-SET. KWUCC
250240 ADD 1 TO TRAILER-CARD-COUNT, MOVE KWUCABC-60 KWUCC
250250 TO TRAILER-60 (TRAILER-CARD-COUNT), GO TO READ-DATA-SET. KWUCC
260010 PROCESS-DATA-SET. KWUCC
260020 MOVE ZERO TO I, NU-AUTHORS, NU-KEYWORDS. KWUCC
260021 WRITE KWUCCDI-REC FROM KWUCCDI-HEADER-A. KWUCC
260030 COUNT-AUTHORS. KWUCC
260040 ADD 1 TO I. KWUCC
260050 IF AUTHOR-NAME (I) = SPACE NEXT SENTENCE ELSE KWUCC
260060 ADD 1 TO NU-AUTHORS, GO TO COUNT-AUTHORS. KWUCC
260070 MOVE ZERO TO I. KWUCC
260080 WRITE-AUTHORS. KWUCC
260090 ADD 1 TO I. KWUCC
260100 IF I > NU-AUTHORS NEXT SENTENCE ELSE MOVE AUTHOR-NAME (I) KWUCC
260110 TO AUTHOR-NAME-C, WRITE KWUCCDI-REC FROM KWUCCDI-AUTHOR-C, KWUCC
260120 GO TO WRITE-AUTHORS. KWUCC
260130 MOVE TITLE-DATA TO TEXT-DATA. KWUCC
260140 PERFORM TRANSFORM-TEXT THRU TRANSFORM-TEXT-END. KWUCC
260150 MOVE ZERO TO I. MOVE TEXT-100 (I) TO TITLE OF KWUCCDI-KWUCC-D. KWUCC
260160 WRITE-KEYWORDS. KWUCC
260170 ADD 1 TO I. KWUCC
260180 IF I > NU-KEYWORDS NEXT SENTENCE ELSE MOVE KEYWORD (I) KWUCC
260190 TO KEY-WORD, WRITE KWUCCDI-REC FROM KWUCCDI-KWUCC-D, KWUCC
260200 GO TO WRITE-KEYWORDS. KWUCC
260210 MOVE AUTHOR-DATA TO TEXT-DATA. KWUCC
260220 PERFORM TRANSFORM-TEXT THRU TRANSFORM-TEXT-END. KWUCC
260230 MOVE SOURCE-DATA TO TEXT-DATA. KWUCC
260240 PERFORM TRANSFORM-TEXT THRU TRANSFORM-TEXT-END. KWUCC
260250 MOVE TRAILER-DATA TO TEXT-DATA. KWUCC
270010 PERFORM TRANSFORM-TEXT THRU TRANSFORM-TEXT-END. KWUCC
270020 IF EOF-KWUCABC-FILE CLOSE KWUCABC-FILE, KWUCCCI-FILE, KWUCC
270030 KWUCCDI-FILE, DISPLAY 'END OF KWUCC' UPON CONSOLE, KWUCC
270040 STOP RUN ELSE GO TO NEW-DATA-SET. KWUCC
280010 TRANSFORM-TEXT. KWUCC
280011 IF TEXT-CARD-COUNT = ZERO GO TO TRANSFORM-TEXT-END. KWUCC

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280020      COMPUTE TEXT-LIMIT = TEXT-CARD-COUNT * 60.      KWUCC
280030      MOVE 1 TO L.      KWUCC
280040      MOVE 1 TO I.      KWUCC
280050      MOVE SPACES TO TEXT-100-WORK, TEXT-WORD, TEXT-RECORD.      KWUCC
280060      PERFORM TEXT-SCAN THRU TEXT-SCAN-END.      KWUCC
280070      MOVE L TO TEXT-RECORD-COUNT.      KWUCC
280080      MOVE ZERO TO I.      KWUCC
280090      WRITE-BIBLIOG.      KWUCC
280100      ADD 1 TO I.      KWUCC
280110      IF I > TEXT-RECORD-COUNT GO TO TRANSFORM-TEXT-END.      KWUCC
280111      IF AUTHOR-TEXT MOVE TEXT-100 (I) TO AUTHOR-REC,      KWUCC
280112      MOVE I TO SEQ-NO OF KWUCCD1-AUTHOR-B,      KWUCC
280113      WRITE KWUCCD1-REC FROM KWUCCD1-AUTHOR-B,      KWUCC
280114      GO TO WRITE-BIBLIOG.      KWUCC
280120      IF TITLE-TEXT MOVE TEXT-100 (I) TO TITLE-REC,      KWUCC
280130      MOVE I TO SEQ-NO OF KWUCCD1-TITLE-B,      KWUCC
280140      WRITE KWUCCD1-REC FROM KWUCCD1-TITLE-B,      KWUCC
280150      GO TO WRITE-BIBLIOG.      KWUCC
280160      IF SOURCE-TEXT MOVE TEXT-100 (I) TO SOURCE-REC,      KWUCC
280170      MOVE I TO SEQ-NO OF KWUCCD1-SOURCE-B,      KWUCC
280180      WRITE KWUCCD1-REC FROM KWUCCD1-SOURCE-B,      KWUCC
280190      GO TO WRITE-BIBLIOG.      KWUCC
280191      IF ABSTRACT-TEXT MOVE TEXT-100 (I) TO ABSTRACT-REC,      KWUCC
280192      MOVE I TO SEQ-NO OF KWUCCD1-ABSTRACT-B,      KWUCC
280193      WRITE KWUCCD1-REC FROM KWUCCD1-ABSTRACT-B,      KWUCC
280194      GO TO WRITE-BIBLIOG.      KWUCC
280200      IF TRAILER-TEXT MOVE TEXT-100 (I) TO TRAILER-REC,      KWUCC
280210      MOVE I TO SEQ-NO OF KWUCCD1-TRAILER-B,      KWUCC
280220      WRITE KWUCCD1-REC FROM KWUCCD1-TRAILER-B,      KWUCC
280230      GO TO WRITE-BIBLIOG.      KWUCC
280240      TRANSFORM-TEXT-END. EXIT.      KWUCC
290010      TEXT-SCAN.      KWUCC
290020      IF AUTHOR-TEXT MOVE TEXT-CARDS TO TEXT-RECORD,      KWUCC
290021      COMPUTE L = (IND-AUTHORS - 1) / 5 + 1,      KWUCC
290022      GO TO TEXT-SCAN-END.      KWUCC
290030      COMPUTE I = 1. COMPUTE K = 0. MOVE SPACES TO TEXT-100-WORK.      KWUCC
290040      TEXT-SCAN-1.      KWUCC
290041      IF I > TEXT-LIMIT GO TO END-TEXT-SCAN.      KWUCC
290050      COMPUTE J = 0.      KWUCC
290051      MOVE SPACES TO TEXT-WORD.      KWUCC
290060      TEXT-SCAN-2.      KWUCC
290070      IF TEXT-CHAR (I) NOT < 'A'      KWUCCFIX
290080      GO TO FORM-WORD.      KWUCC
290090      IF TEXT-CHAR (I) = SPACE NEXT SENTENCE ELSE      KWUCC
290100      GO TO SPEC-CHAR-DIG.      KWUCC
290110      ADD 1 TO I. IF I > TEXT-LIMIT GO TO END-TEXT-SCAN.      KWUCC
290120      GO TO TEXT-SCAN-2.      KWUCC
290130      SPEC-CHAR-DIG.      KWUCC
290140      ADD 1 TO J.      KWUCC
290150      MOVE TEXT-CHAR (I) TO WORD-CHAR (J).      KWUCC
290160      ADD 1 TO I. IF I > TEXT-LIMIT PERFORM WORD-TO-TEXT      KWUCC
290170      THRU WORD-TO-TEXT-END, GO TO END-TEXT-SCAN.      KWUCC
290180      IF TEXT-CHAR (I) > 'Z' OR (TEXT-CHAR (I) < 'A' AND      KWUCC
290190      TEXT-CHAR (I) > SPACE) GO TO SPEC-CHAR-DIG.      KWUCC
290200      PERFORM WORD-TO-TEXT THRU WORD-TO-TEXT-END.      KWUCC
290210      GO TO TEXT-SCAN-1.      KWUCC
290220      FORM-WORD.      KWUCC
290230      ADD 1 TO J.      KWUCC
290240      MOVE TEXT-CHAR (I) TO WORD-CHAR (J).      KWUCC
290250      ADD 1 TO I.      KWUCC
290260      IF TEXT-CHAR (I) = '-' OR '(' OR ')' OR NOT < 'A'      KWUCCFIX
290270      GO TO FORM-WORD.      KWUCC
290271      PERFORM WORD-TO-TEXT THRU WORD-TO-TEXT-END.      KWUCC
290280      IF TITLE-TEXT PERFORM STOP-WORD-TEST THRU STOP-WORD-TEST-END.      KWUCC
290290      GO TO TEXT-SCAN-1.      KWUCC
290300      WORD-TO-TEXT.      KWUCC
290301      COMPUTE POINT = 1 - (J + 1).      KWUCC
290302      IF POINT > ZERO AND TEXT-CHAR (POINT) = SPACE ADD 1 TO K.      KWUCC
290310      COMPUTE S = K + J.      KWUCC
290311      MOVE TEXT-CHAR (I) TO T.      KWUCC
290312      IF S > 100 OR (S = 100 AND T > SPACE AND T < 'A'),      KWUCC
290315      MOVE TEXT-100-WORK TO TEXT-100 (L), ADD 1 TO L,      KWUCC
290320      MOVE 2 TO K, MOVE SPACES TO TEXT-100-WORK.      KWUCC
290330      COMPUTE M = 0.      KWUCC
290340      WORD-TO-TEXT-1.      KWUCC
290350      ADD 1 TO M. IF M > J GO TO WORD-TO-TEXT-END.      KWUCC
290360      ADD 1 TO K.      KWUCC
290370      MOVE WORD-CHAR (M) TO TEXT-100-CHAR (K).      KWUCC
290371      GO TO WORD-TO-TEXT-1.      KWUCC
290380      WORD-TO-TEXT-END. EXIT.      KWUCC
290390      END-TEXT-SCAN.      KWUCC

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290401      MOVE TEXT-100-WORK TO TEXT-100 (L).          KWUCC
290410 TEXT-SCAN-END. EXIT.                             KWUCC
300070 STOP-WORD-TEST.                                  KWUCC
300080      COMPUTE N = 128.                              KWUCC
300090      COMPUTE DELTAN = 128.                         KWUCC
300100 COMPARE-WORDS.                                    KWUCC
300110      IF TEXT-WORD-15 = STOP-WORD (N) GO TO STOP-WORD-TEST-END. KWUCC
300120      IF DELTAN = 1 GO TO STACK-KEYWORD.            KWUCC
300130      COMPUTE DELTAN = DELTAN / 2.                  KWUCC
300140      IF TEXT-WORD-15 > STOP-WORD (N) COMPUTE N = N + DELTAN, KWUCC
300150      GO TO COMPARE-WORDS.                           KWUCC
300160      COMPUTE N = N - DELTAN, GO TO COMPARE-WORDS.  KWUCC
300170 STACK-KEYWORD.                                    KWUCC
300180      ADD 1 TO NU-KEYWORDS.                          KWUCC
300190      MOVE TEXT-WORD-15 TO KEYWORD (NU-KEYWORDS).  KWUCC
300200 STOP-WORD-TEST-END. EXIT.                         KWUCC
999999 LAST-OF-KWUCC.
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*****
***** PROGRAM KWUC-D *****
*****
//S1 EXEC CUBFLG,REGION=96K,TIME=60
//CUB.SYSIN DD *
001010 IDENTIFICATION DIVISION.                          KWUCD
001020 PROGRAM-ID. 'KWUCD'                                KWUCD
001030 AUTHOR. WAYNE J. WATKINS, INFORMATION RETRIEVAL GROUP, COMPUTER. KWUCD
001040 INSTALLATION. AMES LABORATORY, USAEC, AMES, IOWA.  KWUCD
001050 SECURITY. THIS PROGRAM WAS WRITTEN AS AN ACCOUNT OF GOVERNMENT KWUCD
001060 SPONSORED WORK. THIS PROGRAM DOES NOT QUALIFY FOR SECURITY  KWUCD
001070 REGULATIONS.                                         KWUCD
001080 REMARKS. THIS PROGRAM IS THE 3RD OF A SERIES OF 3 PROGRAMS WHICH KWUCD
001090 MAKE UP THE AMES LAB KWUC INDEX SYSTEM.               KWUCD
001100 THIS PROGRAM DOES THE FOLLOWING.                      KWUCD
001110 A. READS AND SORTS AN OPTIONAL STOP-WORD FILE ONTO TEMPORARY KWUCD
001120 STORAGE DEVICE. ASCENDING SEQUENCE FIRST ON OPTIONAL KWUCD
001130 USER NUMBER THEN BY LEFT ADJUSTED STOP-WORD.        KWUCD
001140 B. READS AND SORTS ENTIRE KWUC FILE PRODUCE IN THE PROGRAM KWUCD
001150 PRECEDING.                                             KWUCD
001160 C. PRINTS OUT ENTIRE KWUC INDEX LISTING BY USER WHEN MORE KWUCD
001170 THAN ONE USER'S DATA IS BEING PROCESSED.           KWUCD
001180 D. THREE PARTS WHICH MAKE UP A SINGLE KWUC INDEX BIBLIOGRAPHY KWUCD
001190 ARE.                                                  KWUCD
001200 1. BIBLIOGRAPHY ORDER BY CLASSIFICATION CODE (OPTIONAL). KWUCD
001210 2. AUTHOR INDEX (ALPHABETIC).                       KWUCD
001220 3. KEY WORD NOT IN CONTEXT + TITLE (ALPHABETIC).   KWUCD
001230 ENVIRONMENT DIVISION.                               KWUCD
001240 CONFIGURATION SECTION.                               KWUCD
001250 SOURCE-COMPUTER. IBM-360 H50.                      KWUCD
001255 OBJECT-COMPUTER. IBM-360 H50.                      KWUCD
001260 INPUT-OUTPUT SECTION.                               KWUCD
001270 FILE-CONTROL.                                       KWUCD
001280 SELECT MSGFILE ASSIGN TO 'MSGFILE' UTILITY.         KWUCD
001300 SELECT KWUC-FILE ASSIGN TO 'SORTIN' UTILITY.         KWUCD
001310 SELECT WORD-FILE ASSIGN TO 'KWUCDD1' UTILITY.       KWUCD
001320 SELECT PRINT-OUT ASSIGN TO 'KWUCDD2' UTILITY.      KWUCD
001320 SELECT TEMP-FILE ASSIGN TO 'KWUCDD3' UTILITY.      KWUCD
001330 DATA DIVISION.                                     KWUCD
001340 FILE SECTION.                                       KWUCD
001350 FD MSGFILE
001360 RECORDING MODE F, LABEL RECORDS STANDARD,
001370 BLOCK CONTAINS 0 RECORDS, DATA RECORD MSGREC.
001380 01 MSGREC PICTURE X(120).
002010 FD KWUC-FILE                                       KWUCD
002020 RECORDING MODE IS F                                KWUCD
002025 BLOCK CONTAINS 0 RECORDS
002030 LABEL RECORDS ARE STANDARD                          KWUCD
002040 DATA RECORD IS KWUC-RECORD.                        KWUCD
002050 01 KWUC-RECORD.                                    KWUCD
002060 02 SORT-KEYW PICTURE X(39).                         KWUCD
002070 02 FILLER PICTURE X(95).                          KWUCD
003010 FD WORD-FILE                                       KWUCD
003020 RECORDING MODE IS F                                KWUCD
003030 LABEL RECORDS ARE STANDARD                          KWUCD
003040 BLOCK CONTAINS 0 RECORDS
003040 DATA RECORD IS WORD-RECORD.                        KWUCD
003050 01 WORD-RECORD.                                    KWUCD
003060 02 STOPWORD PICTURE X(15).                          KWUCD
003070 02 CHARCNT PICTURE X(2).                          KWUCD

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003080      02 USERNU      PICTURE X(7).      KWUCD
003090      02 FILLER      PICTURE X(56).      KWUCD
004010 FD    TEMP-FILE      KWUCD
004020      RECORDING MODE IS F      KWUCD
004030      LABEL RECORDS ARE STANDARD      KWUCD
004035      BLOCK CONTAINS 0 RECORDS
004040      DATA RECORD IS TEMP-RECORD.      KWUCD
004050 01    TEMP-RECORD.      KWUCD
004060      02 STOPWORD     PICTURE X(15).      KWUCD
004070      02 CHARCNT     PICTURE X(2).      KWUCD
004080      02 USERNU      PICTURE X(7).      KWUCD
005010 FD    PRINT-OUT      KWUCD
005020      RECORDING MODE IS F      KWUCD
005022      RECORD CONTAINS 132 CHARACTERS      KWUCD
005024      BLOCK CONTAINS 0 RECORDS      KWUCD
005030      LABEL RECORDS ARE OMITTED      KWUCD
005040      DATA RECORD IS PRINT-RECORD.      KWUCD
005050 01    PRINT-RECORD  PICTURE X(132).      KWUCD
006010 SD    SORT-FILEW      KWUCD
006020      RECORDING MODE IS F      KWUCD
006030      DATA RECORD IS SORT-RECORDW.      KWUCD
006040 01    SORT-RECORDW.      KWUCD
006050      02 SORT-WORD   PICTURE X(15).      KWUCD
006060      02 FILLER      PICTURE X(2).      KWUCD
006070      02 SORT-USER   PICTURE X(7).      KWUCD
007010 SD    SORT-FILE      KWUCD
007020      RECORDING MODE IS F      KWUCD
007030      DATA RECORD IS SORT-RECORDK.      KWUCD
007040 01    SORT-RECORDK.      KWUCD
007050      02 SORT-KEYE   PICTURE X(39).      KWUCD
007060      02 FILLER      PICTURE X(95).      KWUCD
010010      WORKING-STORAGE SECTION.      KWUCD
010020 01    MSG1 PICTURE X(120) VALUE ' END OF KWUCD.'.
010020 01    WURDCARD.      KWUCD
010030      02 SWORD      PICTURE X(15).      KWUCD
010032      02 FILLER     PICTURE X(10).      KWUCD
010035      02 USNU       PICTURE X(7).      KWUCD
010040      02 CCNT       PICTURE X(2).      KWUCD
010060      02 FILLER     PICTURE X(46).      KWUCD
010070 01    ORDERWD.      KWUCD
010080      02 SWORD      PICTURE X(15).      KWUCD
010090      02 CCNT       PICTURE X(2).      KWUCD
010100      02 USNU       PICTURE X(7).      KWUCD
010110 01    KWUCINFO.      KWUCD
010120      02 USERNU     PICTURE X(7).      KWUCD
010130      02 LETTERCODE  PICTURE X(11).      KWUCD
010140      02 SOURCEREC  PICTURE X(126).      KWUCD
010150      02 SOURCERECB REDEFINES SOURCEREC.      KWUCD
010160      03 USERNUM    PICTURE X(7).      KWUCD
010170      03 USERNAME   PICTURE X(20).      KWUCD
010180      03 USERADD    PICTURE X(28).      KWUCD
010190      03 USERFLAG   PICTURE X.      KWUCD
010191      03 YFARIN    PICTURE X.      KWUCD
010192      03 DATEIN.      KWUCD
010193      04 NUM1       PICTURE X.      KWUCD
010194      04 NUM2       PICTURE X.      KWUCD
010195      04 NUM3       PICTURE X.      KWUCD
010196      03 FILLER    PICTURE X(66).      KWUCD
010200      02 SOURCERECB REDEFINES SOURCEREC.      KWUCD
010210      03 CLASSCODE  PICTURE X(11).      KWUCD
010220      03 TYPENO    PICTURE X(1).      KWUCD
010230      03 EXTENTNO   PICTURE X(2).      KWUCD
010240      03 SOURCEINFO PICTURE X(100).      KWUCD
010245      03 FILLER    PICTURE X(12).      KWUCD
010250      02 SOURCERECB REDEFINES SOURCEREC.      KWUCD
010260      03 AUTHORA     PICTURE X(20).      KWUCD
010270      03 CLASSCODE  PICTURE X(11).      KWUCD
010280      03 FILLER     PICTURE X(95).      KWUCD
010290      02 SOURCERECB REDEFINES SOURCEREC.      KWUCD
010300      03 KEYWORD    PICTURE X(15).      KWUCD
010305      03 CLASSCODE  PICTURE X(11).      KWUCD
010310      03 TITLE      PICTURE X(100).      KWUCD
010330 01    HEADER-1.      KWUCD
010340      02 FILLER      PICTURE X(40), VALUE IS SPACES.      KWUCD
010350      02 USERNAME   PICTURE X(20).      KWUCD
010360      02 FILLER      PICTURE X(4), VALUE IS SPACES.      KWUCD
010370      02 USERADD     PICTURE X(28).      KWUCD
010380      02 FILLER     PICTURE XX, VALUE IS SPACES.      KWUCD
010382      02 DATEOUT    PICTURE IS X(8).      KWUCD
010384      02 FILLER     PICTURE X(30), VALUE IS SPACES.      KWUCD
010390 01    DUMMY-HEADER.      KWUCD

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010400	02	FILLER	PICTURE X(132), VALUE IS SPACES.	KWUCD
010410	01	HEADER-1A.		KWUCD
010420	02	FILLER	PICTURE X(56), VALUE IS SPACES.	KWUCD
010430	02	TYPEPRINT	PICTURE X(20).	KWUCD
010440	02	FILLER	PICTURE X(45), VALUE IS SPACES.	KWUCD
010450	02	FILLER	PICTURE X(8), VALUE IS ' PAGE '.	KWUCD
010460	02	PAGECNTA	PICTURE 9(3).	KWUCD
010470	01	PAGE-HEADER.		KWUCD
010480	02	FILLER	PICTURE X(121), VALUE IS SPACES.	KWUCD
010490	02	FILLER	PICTURE X(8), VALUE IS ' PAGE '.	KWUCD
010500	02	PAGECNTA	PICTURE 9(3).	KWUCD
010510	01	OUTRECB.		KWUCD
010515	02	FILLER	PICTURE X.	KWUCD
010517	02	FILLER	PICTURE X(9), VALUE IS SPACES.	KWUCD
010520	02	CLASSCODE	PICTURE X(11).	KWUCD
010530	02	FILLER	PICTURE X(3), VALUE IS SPACES.	KWUCD
010540	02	SOURCEINFO	PICTURE X(100).	KWUCD
010550	02	FILLER	PICTURE X(8), VALUE IS SPACES.	KWUCD
010560	01	OUTRECC.		KWUCD
010565	02	FILLER	PICTURE X.	KWUCD
010570	02	OUTRECCA1.		KWUCD
010572	03	AUTHORA	PICTURE X(20).	KWUCD
010576	03	CLASSCODE	PICTURE X(11).	KWUCD
010578	03	FILLER	PICTURE X(19), VALUE IS SPACES.	KWUCD
010580	02	OUTRECCA2.		KWUCD
010582	03	AUTHORA	PICTURE X(20).	KWUCD
010586	03	CLASSCODE	PICTURE X(11).	KWUCD
010588	03	FILLER	PICTURE X(19), VALUE IS SPACES.	KWUCD
010590	02	OUTRECCA3.		KWUCD
010592	03	AUTHORA	PICTURE X(20).	KWUCD
010596	03	CLASSCODE	PICTURE X(11).	KWUCD
010598	03	FILLER	PICTURE X, VALUE IS SPACE	KWUCD
010620	01	OUTRECD.		KWUCD
010622	02	FILLER	PICTURE X.	KWUCD
010624	02	CLASSCODE	PICTURE X(11).	KWUCD
010626	02	FILLER	PICTURE X(3), VALUE IS SPACES.	KWUCD
010630	02	KEYWORD	PICTURE X(15).	KWUCD
010640	02	FILLER	PICTURE XX, VALUE IS SPACES.	KWUCD
010650	02	TITLE	PICTURE X(100).	KWUCD
010680	01	AUTHORTABLE.		KWUCD
010690	02	AUTHORTABLEA	OCCURS 309 TIMES.	KWUCD
010700	03	AUTHORA	PICTURE X(20).	KWUCD
010710	03	CLASSCODE	PICTURE X(11).	KWUCD
010720	01	TABCNT	PICTURE S999, COMPUTATIONAL.	KWUCD
010730	01	TABCNT1	PICTURE S999, COMPUTATIONAL.	KWUCD
010740	01	TABCNT2	PICTURE S999, COMPUTATIONAL.	KWUCD
010750	01	TABCNT3	PICTURE S999, COMPUTATIONAL.	KWUCD
010760	01	PAGECNT	PICTURE 9999, DISPLAY.	KWUCD
010770	01	LINECNT	PICTURE S999, COMPUTATIONAL.	KWUCD
010780	01	AUTHORSAVE	PICTURE X(20).	KWUCD
010785	01	USERSAVE	PICTURE X(7).	KWUCD
010790	01	TYPE SAVE	PICTURE X(1).	KWUCD
010795	01	AUTHORSPAN.		KWUCD
010800	02	FIRSTREF.		KWUCD
010810	03	FIRSTAUTHOR	PICTURE X(20).	KWUCD
010830	02	LASTREF.		KWUCD
010840	03	LASTAUTHOR	PICTURE X(20).	KWUCD
010860	01	KEYWORDSPAN.		KWUCD
010870	02	FIRSTKEF.		KWUCD
010875	03	FILLER	PICTURE X(5), VALUE IS SPACES.	KWUCD
010880	03	FIRSTKEWD	PICTURE X(15).	KWUCD
010900	02	LASTREF.		KWUCD
010910	03	LASTKEWD	PICTURE X(15).	KWUCD
010920	03	FILLER	PICTURE X(5), VALUE IS SPACES.	KWUCD
010930	01	CRCSPAN.		KWUCD
010940	02	FIRSTCRF.		KWUCD
010942	03	FILLER	PICTURE X(9), VALUE IS SPACES.	KWUCD
010945	03	FIRSTCRC	PICTURE X(11).	KWUCD
010960	02	LASTREF.		KWUCD
010965	03	LASTCRC	PICTURE X(11).	KWUCD
010970	03	FILLER	PICTURE X(9), VALUE IS SPACES.	KWUCD
010980	01	TRAILER.		KWUCD
010990	02	FILLER	PICTURE X(45), VALUE IS SPACES.	KWUCD
011000	02	FIRSTREF	PICTURE X(20).	KWUCD
011010	02	FILLER	PICTURE XXX, VALUE IS ' * '.	KWUCD
011020	02	LASTREF	PICTURE X(20).	KWUCD
011030	02	FILLER	PICTURE X(44), VALUE IS SPACES.	KWUCD
011040	01	LINE0	PICTURE S999, COMPUTATIONAL.	KWUCD
011050	01	LINE1	PICTURE S999, COMPUTATIONAL.	KWUCD
011060	01	LINE2	PICTURE S999, COMPUTATIONAL.	KWUCD
011070	01	LINE3	PICTURE S999, COMPUTATIONAL.	KWUCD

011080 01	LINE00 PICTURE S999, COMPUTATIONAL.	KWUCD
011090 01	LINE11 PICTURE S999, COMPUTATIONAL.	KWUCD
011100 01	LINE22 PICTURE S999, COMPUTATIONAL.	KWUCD
011110 01	LINE33 PICTURE S999, COMPUTATIONAL.	KWUCD
011120 01	ADJFKF.	KWUCD
011130	02 ADJCH OCCURS 20 TIMES, PICTURE X.	KWUCD
011140 01	I PICTURE S99, COMPUTATIONAL.	KWUCD
011150 01	J PICTURE S99, COMPUTATIONAL.	KWUCD
011160 01	DATWK.	KWUCD
011165	02 MONTHA PICTURE 99, DISPLAY.	KWUCD
011180	02 FSLASH PICTURE X.	KWUCD
011185	02 DAYA PICTURE 99, DISPLAY.	KWUCD
011200	02 SSLASH PICTURE X.	KWUCD
011210	02 DECAUE PICTURE X.	KWUCD
011220	02 YEAR PICTURE X.	KWUCD
011224 01	WUWK1.	KWUCD
011175	02 AMUNTH PICTURE S99, COMPUTATIONAL.	KWUCD
011176	02 MONTH REDEFINES AMUNTH, PICTURE 99, DISPLAY.	KWUCD
011226 01	WUWK2.	KWUCD
011195	02 ADAY PICTURE S99, COMPUTATIONAL.	KWUCD
011196	02 DAY REDEFINES ADAY, PICTURE 99, DISPLAY.	KWUCD
011230 01	DATE.	KWUCD
011250	02 ADATEIN PICTURE S999, COMPUTATIONAL.	KWUCD
011260	02 DATEINA REDEFINES ADATEIN, PICTURE 999, DISPLAY.	KWUCD
020010	PROCEDURE DIVISION.	KWUCD
020020	SORT SORT-FILEW ASCENDING KEY SORT-USER, SORT-WORD OF	KWUCD
020030	SORT-RECORDW, INPUT PROCEDURE KWUC-READA THRU KWUC-READB,	KWUCD
020040	OUTPUT PROCEDURE KWUC-WRITEA THRU KWUC-WRITEB.	KWUCD
020060	SORT SORT-FILEK ASCENDING KEY SORT-KEYE OF SORT-RECORDK,	KWUCD
020070	USING KWUC-FILE,	KWUCD
020080	OUTPUT PROCEDURE KWUC-PRINTA THRU KWUC-PRINTB.	KWUCD
	OPEN OUTPUT MSGFILE.	
	WRITE MSGREC FROM MSG1.	
	CLOSE MSGFILE,	
	STOP RUN.	
021010	KWUC-READA SECTION.	KWUCD
021020	OPEN INPUT WORD-FILE.	KWUCD
021022	READ WORD-FILE INTO WORDCARD AT END GO TO CLOSE-INPUT.	KWUCD
021024	MOVE USNO OF WORDCARD TO USERSAVE.	KWUCD
021030	READ-CARDS.	KWUCD
021050	MOVE CORRESPONDING WORDCARD TO ORDERWD.	KWUCD
021053	IF USNO OF WORDCARD IS NOT = ' MOVE USNO OF WORDCARD	KWUCD
021054	TO USERSAVE.	KWUCD
021055	MOVE USERSAVE TO USNO OF ORDERWD.	KWUCD
021060	MOVE ORDERWD TO SORT-RECORDW.	KWUCD
021070	RELEASE SORT-RECORDW.	KWUCD
021075	READ WORD-FILE INTO WORDCARD AT END GO TO CLOSE-INPUT.	KWUCD
021080	GO TO READ-CARDS.	KWUCD
021090	CLOSE-INPUT.	KWUCD
021100	CLOSE WORD-FILE.	KWUCD
021110	KWUC-READB. EXIT.	KWUCD
022010	KWUC-WRITEA SECTION.	KWUCD
022020	OPEN OUTPUT TEMP-FILE.	KWUCD
022030	KWUC-WRITEA1.	KWUCD
022040	RETURN SORT-FILEW AT END GO TO KWUC-WRITEA4.	KWUCD
022050	WRITE TEMP-RECORD FROM SORT-RECORDW.	KWUCD
022060	GO TO KWUC-WRITEA1.	KWUCD
022070	KWUC-WRITEA4.	KWUCD
022080	MOVE '99999999999999999999999999999999' TO ORDERWD.	KWUCD
022090	WRITE TEMP-RECORD FROM ORDERWD.	KWUCD
022100	CLOSE TEMP-FILE.	KWUCD
022110	KWUC-WRITEB. EXIT.	KWUCD
023010	KWUC-GETA SECTION.	KWUCD
023020	OPEN INPUT KWUC-FILE.	KWUCD
023030	KWUC-GETA1.	KWUCD
023040	READ KWUC-FILE INTO SORT-RECORDK AT END GO TO KWUC-GETA2.	KWUCD
023050	RELEASE SORT-RECORDK.	KWUCD
023060	GO TO KWUC-GETA1.	KWUCD
023070	KWUC-GETA2.	KWUCD
023080	CLOSE KWUC-FILE.	KWUCD
023090	KWUC-GETB. EXIT.	KWUCD
024010	KWUC-PRINTA SECTION.	KWUCD
024015	OPEN OUTPUT PRINT-OUT.	KWUCD
024020	OPEN INPUT TEMP-FILE.	KWUCD
024030	READ TEMP-FILE INTO ORDERWD AT END GO TO CLOSE-OUTPUT.	KWUCD
024040	RETURN SORT-FILEK AT END GO TO CLOSE-OUTPUT	KWUCD
024050	MOVE SORT-RECORDK TO KWUCINFU.	KWUCD
024060	KWUC-UNFKAI-HSK.	KWUCD
024070	MOVE ZEROS TO PAGECNT.	KWUCD
024090	ALTER KWUC-LIST1 TO PROCEED TO KWUC-LISTB2.	KWUCD
024095	PERFORM KWUC-LIST1 THRU KWUC-LISTA9 UNTIL LETTERCODE OF	KWUCD

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024096      KWUCINFO = 'A'.
024100      IF USERFLAG = '2' OR USERFLAG = '3' THEN
024102          COMPUTE LINE0 = 99, COMPUTE LINE00 = 100,
024104          COMPUTE LINE1 = 103, COMPUTE LINE11 = 104,
024106          COMPUTE LINE2 = 206, COMPUTE LINE22 = 207,
024108          COMPUTE LINE3 = 309, COMPUTE LINE33 = 310, ELSE
024110          COMPUTE LINE0 = 50, COMPUTE LINE00 = 51,
024112          COMPUTE LINE1 = 54, COMPUTE LINE11 = 55,
024114          COMPUTE LINE2 = 108, COMPUTE LINE22 = 109,
024116          COMPUTE LINE3 = 162, COMPUTE LINE33 = 163.
025062      MOVE CORRESPONDING SOURCECECA TO HEADER-1.
025064      PERFORM DATE-01 THRU DATE-09.
024140      PERFORM KWOC-LISTA1 THRU KWOC-LISTA9 UNTIL LETTERCODE OF
024150      KWUCINFO IS NOT = 'A'.
024160      PERFORM KWOC-LISTB1 THRU KWOC-LISTB9 UNTIL LETTERCODE OF
024170      KWUCINFO IS NOT = 'B'.
024175      MOVE TYPESAVE TO TYPEND.
024180      PERFORM KWOC-LISTC1 THRU KWOC-LISTC9 UNTIL LETTERCODE OF
024190      KWUCINFO IS NOT = 'C'.
024200      PERFORM KWOC-LISTD1 THRU KWOC-LISTD9 UNTIL LETTERCODE OF
024210      KWUCINFO IS NOT = 'D'.
024220      KWOC-STOPPER. GO TO KWOC-OVERAL-HSK.
024230      CLOSE-OUTPUT.
024245      CLOSE PRINT-OUT.
024250      KWOC-PRINTB. EXIT.
025010      KWOC-LISTA1.
025030      RETURN SORT-FILEK AT END
025040      ALTER KWOC-STOPPER TO PROCEED TO CLOSE-OUTPUT.
025050      GO TO KWOC-LISTA9.
025060      MOVE SORT-RECORDK TO KWUCINFO.
025070      KWOC-LISTA9. EXIT.
026010      KWOC-LISTB1. GO TO KWOC-LISTB2.
026020      KWOC-LISTB2.
026025      MOVE ' BIBLIOGRAPHY ' TO TYPEPRINT.
026030      WRITE PRINT-RECORD FROM HEADER-1 AFTER 0.
026040      ADD 1 TO PAGECNT.
026050      MOVE PAGECNT TO PAGECNTA OF HEADER-1A.
026060      WRITE PRINT-RECORD FROM HEADER-1A AFTER 1.
026070      WRITE PRINT-RECORD FROM DUMMY-HEADER AFTER 1.
026080      ALTER KWOC-LISTB1 TO PROCEED TO KWOC-LISTB3.
026090      GO TO KWOC-LISTB4.
026100      KWOC-LISTB3.
026110      WRITE PRINT-RECORD FROM DUMMY-HEADER AFTER 0.
026120      ADD 1 TO PAGECNT.
026130      MOVE PAGECNT TO PAGECNTA OF HEADER-1A.
026140      WRITE PRINT-RECORD FROM HEADER-1A AFTER 1.
026150      WRITE PRINT-RECORD FROM DUMMY-HEADER AFTER 1.
026160      KWOC-LISTB4.
026165      MOVE CLASSCODE OF SOURCECECB TO FIRSTCR.
026170      COMPUTE LINECNT = 1.
026180      PERFORM KWOC-LISTB81 THRU KWOC-LISTB89 UNTIL LINECNT IS
026190      GREATER THAN LINE0 AND TYPEND OF KWUCINFO = '1'.
026194      MOVE CORRESPONDING CRSPAN TO TRAILER.
026195      PERFORM RIGHT-ADJ1 THRU RIGHT-ADJ5.
026197      WRITE PRINT-RECORD FROM TRAILER AFTER 2.
026200      KWOC-LISTB9. EXIT.
027010      KWOC-LISTB81.
027020      MOVE CORRESPONDING SOURCECECB OF KWUCINFO TO OUTRECB.
027030      IF TYPEND OF KWUCINFO IS NOT = '1' OR TYPESAVE = '1'
027040      GO TO KWOC-LISTB84.
027050      WRITE PRINT-RECORD FROM OUTRECB AFTER 2.
027060      COMPUTE LINECNT = LINECNT + 2, MOVE TYPEND TO TYPESAVE.
027070      GO TO KWOC-LISTB88.
027080      KWOC-LISTB84.
027090      MOVE SPACES TO CLASSCODE OF OUTRECB.
027100      WRITE PRINT-RECORD FROM OUTRECB AFTER 1.
027110      COMPUTE LINECNT = LINECNT + 1, MOVE TYPEND TO TYPESAVE.
027120      KWOC-LISTB88.
027120      MOVE CLASSCODE OF SOURCECECB TO LASTCR.
027130      RETURN SORT-FILEK AT END
027140      ALTER KWOC-STOPPER TO PROCEED TO CLOSE-OUTPUT.
027150      COMPUTE LINECNT = LINE00,
027160      MOVE '1' TO TYPEND OF KWUCINFO,
027170      GO TO KWOC-LISTB89.
027180      MOVE SORT-RECORDK TO KWUCINFO.
027190      IF LETTERCODE OF KWUCINFO IS NOT = 'B'
027200      COMPUTE LINECNT = LINE00,
027205      MOVE TYPEND TO TYPESAVE,
027210      MOVE '1' TO TYPEND OF KWUCINFO.
027220      KWOC-LISTB89. EXIT.
028010      KWOC-LISTC1. GO TO KWOC-LISTC2.

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028020 KWUC-LISTC2. KWUCD
028025 MOVE ' AUTHOR INDEX ' TO TYPEPRINT. KWUCD
028030 WRITE PRINT-RECORD FROM DUMMY-HEADER AFTER 0. KWUCD
028040 ADD 1 TO PAGECNT. KWUCD
028050 MOVE PAGECNT TO PAGECNTA OF HEADER-1A. KWUCD
028060 WRITE PRINT-RECORD FROM HEADER-1A AFTER 1. KWUCD
028070 WRITE PRINT-RECORD FROM DUMMY-HEADER AFTER 1. KWUCD
028160 KWUC-LISTC4. KWUCD
028165 MOVE AUTHORA OF SOURCECECC TO FIRSTAUTHOR. KWUCD
028170 PERFORM KWUC-LISTC11 THRU KWUC-LISTC15 VARYING TABCNT FROM 1 KWUCD
028175 BY 1 UNTIL TABCNT > LINE3. KWUCD
028180 PERFORM KWUC-LISTC21 THRU KWUC-LISTC25 VARYING TABCNT1 FROM 1 KWUCD
028190 BY 1 UNTIL TABCNT1 = LINE11. KWUCD
028194 MOVE CORRESPONDING AUTHORSPAN TO TRAILER. KWUCD
028195 PERFORM RIGHT-ADJ1 THRU RIGHT-ADJ5. KWUCD
028197 WRITE PRINT-RECORD FROM TRAILER AFTER 2. KWUCD
028200 KWUC-LISTC9. EXIT. KWUCD
029010 KWUC-LISTC11. KWUCD
029020 MOVE CORRESPONDING SOURCECECC TO AUTHORTABLEA (TABCNT). KWUCD
029030 IF AUTHORA OF SOURCECECC = AUTHORSAVE AND KWUCD
029040 TABCNT IS NOT = 1 AND KWUCD
029050 TABCNT IS NOT = LINE11 AND KWUCD
029060 TABCNT IS NOT = LINE22, KWUCD
029070 MOVE SPACES TO AUTHORA OF AUTHORTABLEA (TABCNT), KWUCD
029080 GO TO KWUC-LISTC12. KWUCD
029090 MOVE AUTHORA OF KWUCINFO TO AUTHORSAVE. KWUCD
029100 KWUC-LISTC12. KWUCD
029105 MOVE AUTHORA OF SOURCECECC TO LASTAUTHOR. KWUCD
029110 RETURN SORT-FILE AT END ALTER KWUC-STOPPER TO PROCEED TO KWUCD
029120 CLOSE-OUTPUT, GO TO KWUC-LISTC13. KWUCD
029140 MOVE SORT-RECORD TO KWUCINFO. KWUCD
029150 IF LETTERCODE IS NOT = 'C' GO TO KWUC-LISTC13. KWUCD
029160 GO TO KWUC-LISTC15. KWUCD
029170 KWUC-LISTC13. KWUCD
029180 COMPUTE TABCNT3 = TABCNT + 1. KWUCD
029190 PERFORM PADUP1 THRU PADUP3 VARYING TABCNT2 FROM TABCNT3 BY 1 KWUCD
029200 UNTIL TABCNT2 > LINE3. KWUCD
029205 COMPUTE TABCNT = TABCNT2. KWUCD
029210 KWUC-LISTC15. EXIT. KWUCD
029220 PADUP1. KWUCD
029230 MOVE SPACES TO AUTHORA OF AUTHORTABLEA (TABCNT2). KWUCD
029240 MOVE SPACES TO CLASSCODE OF AUTHORTABLEA (TABCNT2). KWUCD
029250 PADUP3. KWUCD
030010 KWUC-LISTC21. KWUCD
030020 COMPUTE TABCNT2 = TABCNT1 + LINE1. KWUCD
030030 COMPUTE TABCNT3 = TABCNT1 + LINE2. KWUCD
030040 MOVE CORRESPONDING AUTHORTABLEA (TABCNT1) TO OUTRECCA1. KWUCD
030050 MOVE CORRESPONDING AUTHORTABLEA (TABCNT2) TO OUTRECCA2. KWUCD
030060 MOVE CORRESPONDING AUTHORTABLEA (TABCNT3) TO OUTRECCA3. KWUCD
030070 WRITE PRINT-RECORD FROM OUTRECC AFTER 1. KWUCD
030080 KWUC-LISTC25. EXIT. KWUCD
031010 KWUC-LISTD1. GO TO KWUC-LISTD2. KWUCD
031020 KWUC-LISTD2. KWUCD
031025 MOVE ' KEYWORD INDEX ' TO TYPEPRINT. KWUCD
031030 WRITE PRINT-RECORD FROM DUMMY-HEADER AFTER 0. KWUCD
031040 ADD 1 TO PAGECNT. KWUCD
031050 MOVE PAGECNT TO PAGECNTA OF HEADER-1A. KWUCD
031060 WRITE PRINT-RECORD FROM HEADER-1A AFTER 1. KWUCD
031070 WRITE PRINT-RECORD FROM DUMMY-HEADER AFTER 1. KWUCD
031160 KWUC-LISTD4. KWUCD
031165 MOVE KEYWORD OF SOURCECECC TO FIRSTKEWD. KWUCD
031170 COMPUTE LINECNT = 1. KWUCD
031180 PERFORM KWUC-LISTD1 THRU KWUC-LISTD5 UNTIL LINECNT IS KWUCD
031190 GREATER THAN LINE1. KWUCD
031194 MOVE CORRESPONDING KEWDSPAN TO TRAILER. KWUCD
031195 PERFORM RIGHT-ADJ1 THRU RIGHT-ADJ5. KWUCD
031197 WRITE PRINT-RECORD FROM TRAILER AFTER 2. KWUCD
031200 KWUC-LISTD9. EXIT. KWUCD
032010 KWUC-LISTD1. KWUCD
032015 IF LINECNT = 1 MOVE KEYWORD OF SOURCECECC TO FIRSTKEWD. KWUCD
032020 IF KEYWORD OF KWUCINFO IS = SWORD OF ORDERWD AND KWUCD
032030 USERN OF KWUCINFO IS = USNO OF ORDERWD GO TO KWUCD
032040 KWUC-LISTD4. KWUCD
032050 IF USERN OF KWUCINFO IS LESS THAN USNO OF ORDERWD KWUCD
032060 GO TO KWUC-LISTD3. KWUCD
032070 IF KEYWORD OF KWUCINFO IS LESS THAN SWORD OF ORDERWD KWUCD
032080 AND USERN OF KWUCINFO = USNO OF ORDERWD KWUCD
032090 GO TO KWUC-LISTD3. KWUCD
032100 READ TEMP-FILE INTO ORDERWD AT END GO TO KWUC-LISTD3. KWUCD
032110 GO TO KWUC-LISTD1. KWUCD
032120 KWUC-LISTD3. KWUCD

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032130      MOVE CORRESPONDING SOURCECERCD TO OUTREC.      KWUCD
032140      WRITE PRINT-RECORD FROM OUTREC AFTER 1.      KWUCD
032150      COMPUTE LINECNT = LINECNT + 1.      KWUCD
032160      KWUC-LISTDD4      KWUCD
032164      MOVE KEYWORD OF SOURCECERCD TO LASTKWD.      KWUCD
032167      MOVE CLASSCODE OF SOURCECERCD TO LASTCRC.      KWUCD
032170      RETURN SORT-FILE AT END ALTER KWUC-STOPPER TO PROCEED      KWUCD
032180      TO CLOSE-OUTPUT, COMPUTE LINECNT = LINE11, MOVE 'X' TO      KWUCD
032181      LETTERCODE OF KWUCINFO, GO TO KWUC-LISTDD5.      KWUCD
032190      MOVE SORT-RECORDK TO KWUCINFO.      KWUCD
032200      IF LETTERCODE OF KWUCINFO IS NOT = '0'      KWUCD
032210      COMPUTE LINECNT = LINE11.      KWUCD
032214      IF CLASSCODE OF SOURCECERCD = LASTCRC AND KEYWORD      KWUCDFIX
032215      OF SOURCECERCD = LASTKWD GO TO KWUC-LISTDD4.      KWUCDFIX
032220      KWUC-LISTDD5. EXIT.      KWUCD
032230      RIGHT-ADJ1.      KWUCD

032240      MOVE FIRSTREF OF TRAILER TO ADJREF.      KWUCD
032250      COMPUTE J = 20.      KWUCD
032260      IF ADJCH (20) IS NOT = ' ' GO TO RIGHT-ADJ5.      KWUCD
032270      COMPUTE I = 20.      KWUCD
032280      RIGHT-ADJ2.      KWUCD
032290      COMPUTE I = I - 1.      KWUCD
032300      IF ADJCH (I) = ' ' GO TO RIGHT-ADJ2.      KWUCD
032310      RIGHT-ADJ3.      KWUCD
032320      MOVE ADJCH (I) TO ADJCH (J).      KWUCD
032330      COMPUTE I = I - 1.      KWUCD
032340      COMPUTE J = J - 1.      KWUCD
032350      IF I IS NOT = 0 GO TO RIGHT-ADJ3.      KWUCD
032360      RIGHT-ADJ4.      KWUCD
032370      MOVE ' ' TO ADJCH (J).      KWUCD
032380      COMPUTE J = J - 1.      KWUCD
032390      IF J IS NOT = 0 GO TO RIGHT-ADJ4.      KWUCD
032400      MOVE ADJREF TO FIRSTREF OF TRAILER.      KWUCD
032410      RIGHT-ADJ5. EXIT.      KWUCD
032420      DATE-01.      KWUCD
032430      IF DATEIN = ' ' OR DATEIN = '000' OR NUM1 < '0'      KWUCD
032431      OR NUM2 < '0' OR NUM3 < '0' MOVE SPACES TO DATEOUT,      KWUCD
032432      GO TO DATE-09.      KWUCD
032435      MOVE '6' TO DECADE.      KWUCD
032440      MOVE DATEIN TO DATE.      KWUCD
032450      COMPUTE AMONTH = ADATEIN / 30.      KWUCD
032460      COMPUTE ADAY = ADATEIN * AMONTH.      KWUCD
032470      COMPUTE ADAY = ADATEIN - ADAY + 1.      KWUCD
032480      COMPUTE AMONTH = AMONTH + 1.      KWUCD
032490      MOVE YEARIN TO YEAR.      KWUCD
032500      MOVE '/' TO FSLASH.      KWUCD
032510      MOVE '/' TO SSLASH.      KWUCD
032512      MOVE MONTH TO MONTHA.      KWUCD
032514      MOVE DAY TO DAYA.      KWUCD
032520      MOVE DATEWK TO DATEOUT.      KWUCD
032530      DATE-09. EXIT.      KWUCD
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END OF SOURCE PROGRAM LISTINGS