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AEC RESEARCH AND DEVELOPMENT REPORT

A COMPUTER PROGRAM FOR CIRCULATION OF LIBRARY JOURNALS

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Savannah River Laboratory

Aiken, South Carolina

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A COMPUTER PROGRAM FOR CIRCULATION OF LIBRARY JOURNALS

by

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ABSTRACT

A computer program, JURN, has been written in FORTRAN II which automates the repetitive paperwork needed to circulate technical journals. The program reduces to a minimum the time and effort required to prepare and maintain current records.

The program provides printed distribution slips for each circulating journal, notification of reorder dates, listings of circulating and reference journals, and complete listings of library holdings.

A maximum of 1000 people and 750 separate journals (titles) can be accommodated by this program. Up to 50 copies of each journal may be circulated to a maximum of 16 people per copy.

LIST OF FIGURES

A COMPUTER PROGRAM FOR CIRCULATION OF LIBRARY JOURNALS

INTRODUCTION

The library of the Savannah River Laboratory currently receives and circulates ~500 periodicals to ~600 Plant and Laboratory personnel. It was desirable to develop a computer program that could perform much of the clerical work. The following tasks that were performed by the library staff are amenable to automation: (1) maintenance of an up-to-date list of available periodicals and the circulation list for each periodical, (2) printing of circulation slips, and (3) notification of renewal dates.

STRUCTURE OF THE PROGRAM

The program includes a main program and eight subroutines (Figure 1). Five of the subroutines that deal directly with the output are easily understood and do not require detailed explanation.

The input is arranged in two blocks: (1) the people who receive the journals periodically - name, payroll number, and location; (2) the journals - titles, general information, and distribution lists composed of the payroll number of each person to whom this periodical is circulated.

The most important functions deal with updating the input tape and converting the input to a form more easily used for the library tape. These operations are performed by the three subroutines described below.

The first, subroutine CHANGE (Figure 2), updates the existing library tape. The procedure accommodates changes in (1) the list of people who receive journals, (2) journal titles, (3) general information, and (4) distribution lists. A new input tape is generated by combining the designated changes and the old tape.

The new input tape is the basis for the library tape. Two subroutines, TAPMAK (Figure 3) and PERSTP (Figure 4), are required to generate four blocks of information on the library tape. The first block on the tape is a list of each person's name. The second block is a group of X records, where X is the total number of journals. Each record is associated with one journal and consists of the title, general information, and distribution lists for that journal. The third block is an alphabetic list of the name of each journal.

The fourth block of information is developed by the PERSTP subroutine. This subroutine rearranges the above three blocks of information to form a block of Y records, where Y is the number of people who receive these journals. Each record represents one person and contains the person's name and the index number of each journal that he receives.

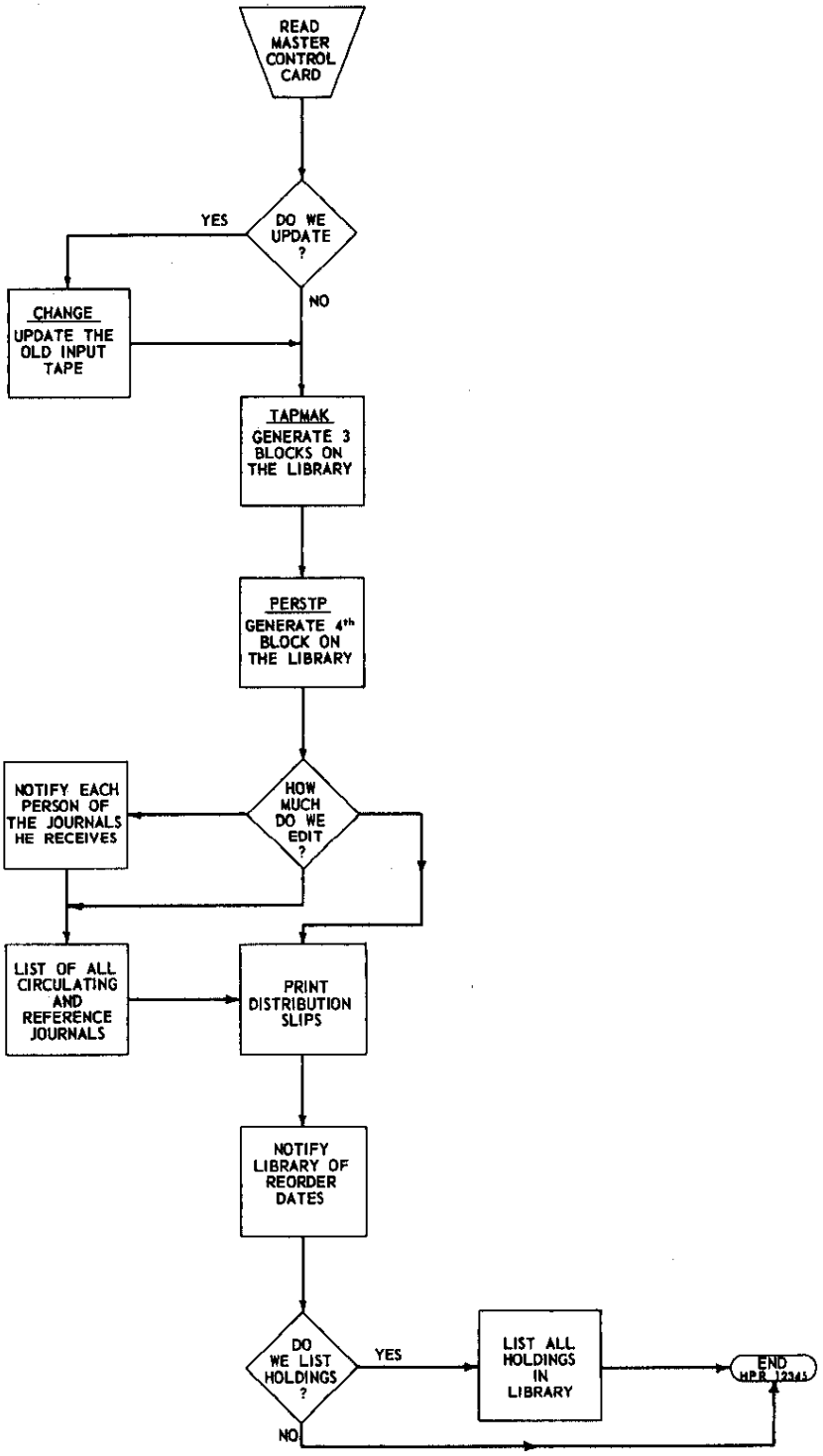
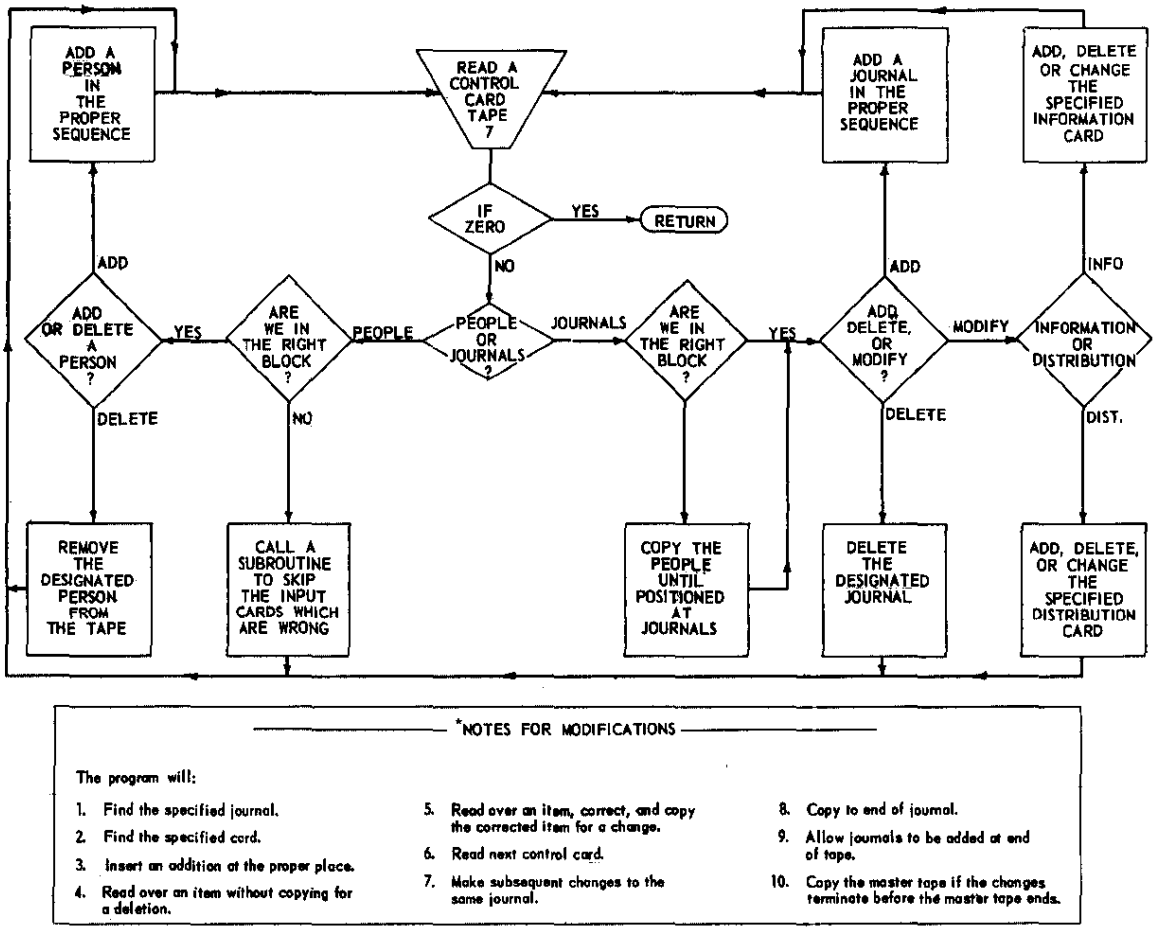


FIG. 1 FLOWSHEET FOR THE JURN PROGRAM



*NOTES FOR MODIFICATIONS

The program will:

1. Find the specified journal.
2. Find the specified card.
3. Insert an addition at the proper place.
4. Read over an item without copying for a deletion.
5. Read over an item, correct, and copy the corrected item for a change.
6. Read next control card.
7. Make subsequent changes to the same journal.
8. Copy to end of journal.
9. Allow journals to be added at end of tape.
10. Copy the master tape if the changes terminate before the master tape ends.

FIG. 2 FLOWSHEET FOR SUBROUTINE CHANGE

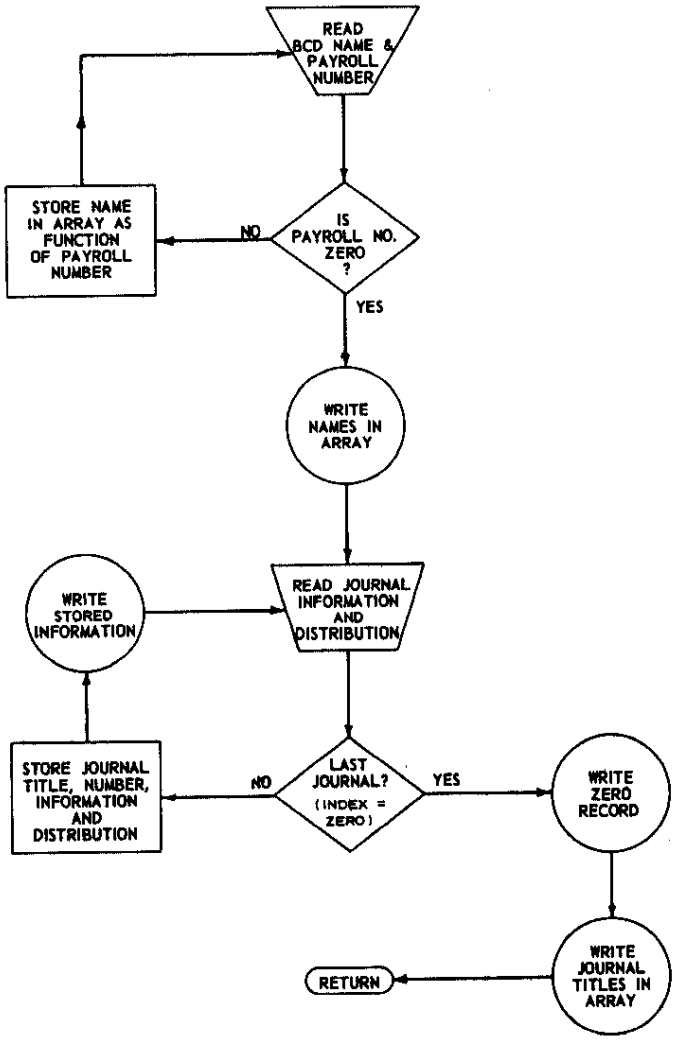


FIG. 3 FLOWSHEET FOR SUBROUTINE TAPMAK

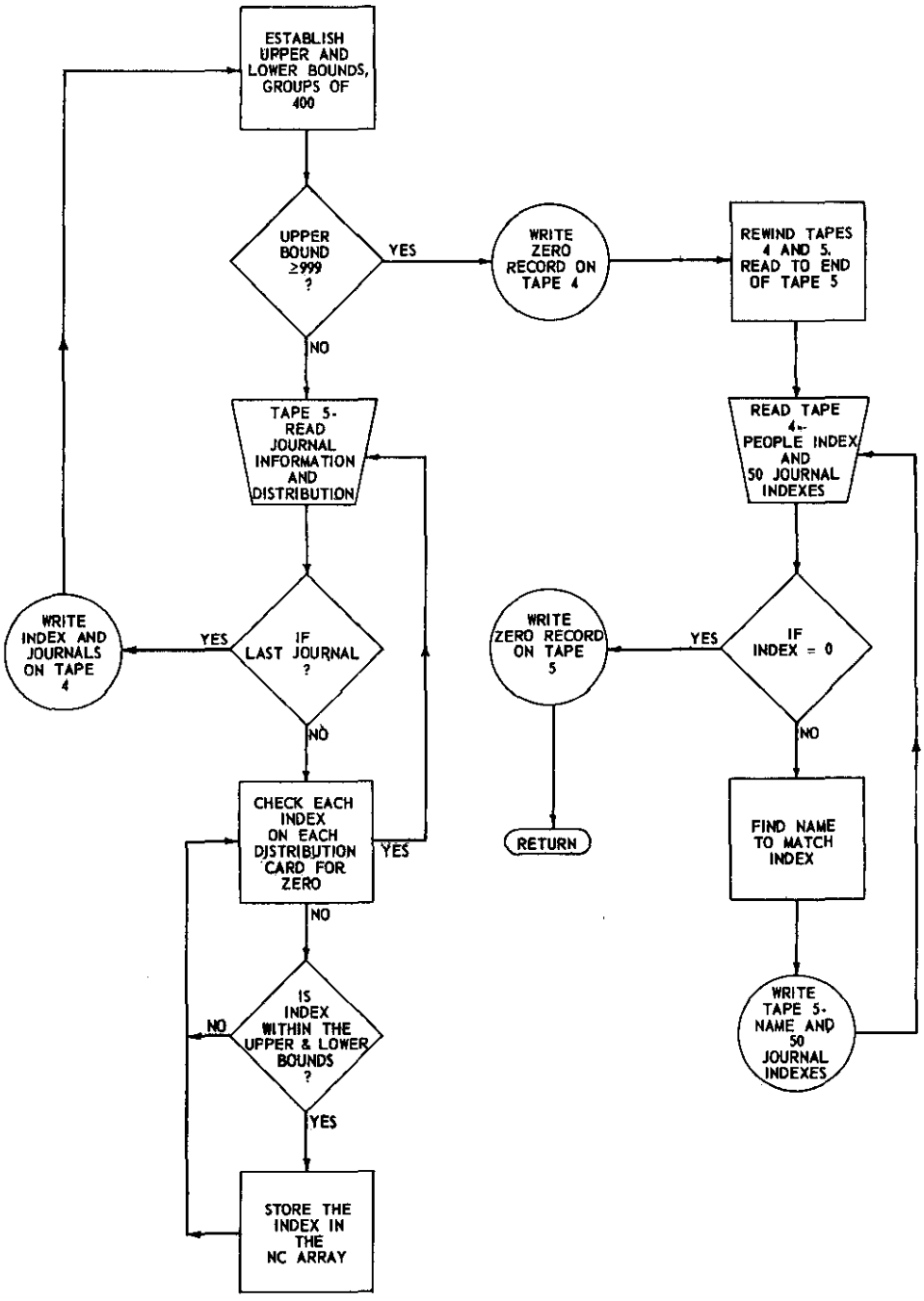


FIG. 4 FLOWSHEET FOR SUBROUTINE PERSTP

CAPABILITIES OF THE PROGRAM

There are several limiting factors in this program. The maximum number of people who can be accommodated is 999. The index number for each person is his payroll number. Each name and location is allowed 18 alphanumeric characters which require 3 storages in computer memory. The program can accommodate 750 periodicals. The index number for each journal is unique and random, but cannot exceed the number 750. The name of the journal is allowed 24 alphanumeric characters which require 4 storages in computer memory.

There are a maximum of 8 information cards for each journal. Each distribution card represents one copy of that journal. Each copy can be circulated to a maximum of 16 people. There can be up to 30 regular distribution cards and up to 20 departmental distribution cards for each journal.

On the sample problem, execution time was 35 minutes on a 32K IBM 704 with model 727-III tape units. The problem consisted of (1) making 15-20 changes to an input tape containing 580 people and 130 journals, and (2) obtaining all possible output from the program. Due to the necessary manipulation of tapes, the execution time will increase as the tapes get longer.

The estimated maximum run time for 999 people and 750 journals may be approximately 2 hours.

INPUT

Original Input

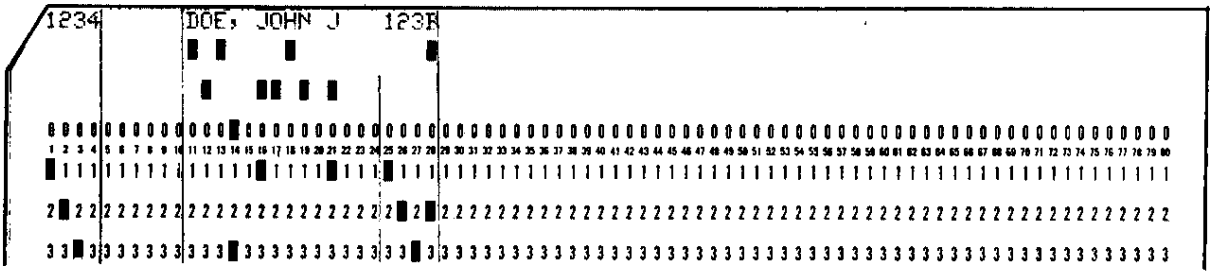
There are two types of cards for the original input tape: the "journal cards" and the "people cards".

For each periodical there are 4 categories of journal cards designated as (1) "periodical card", (2) "direct order card", (3) "information cards", and (4) "distribution cards".

The "people cards" contain in

Columns	1-4	Payroll number
	5-10	Blank
	11-24	Name of person
	25-28	Location

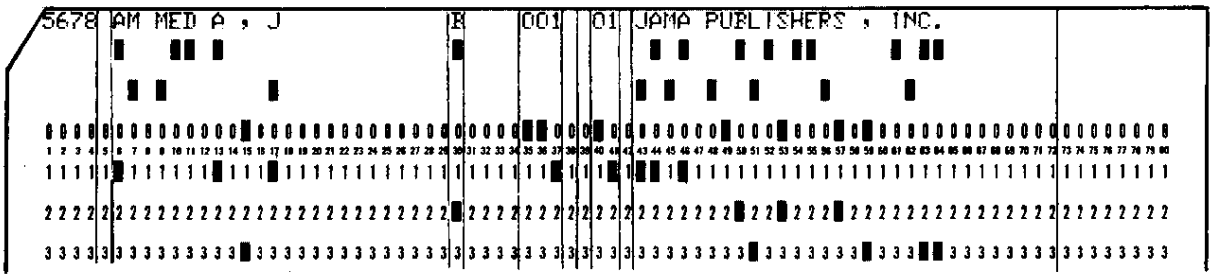
EXAMPLE: "People Card" (1 per person)



The "periodical card" contains in

Columns	1-4	Index number for this journal
	5	1 for last card for this journal block - zero otherwise
	6-29	Name of periodical
	30	Frequency of publication: W for weekly, B for biweekly, M for monthly, 2 for bimonthly, Q for quarterly, I for irregularly
	31-34	Blank
	35-37	Number of copies ordered
	38	1 for holdings only - zero otherwise
	39	1 for reference room only - zero otherwise
	40-41	Month ordered
	42	1 if ordered through a vendor - zero if ordered directly from the publisher
	43-72	Name of distributor for direct order

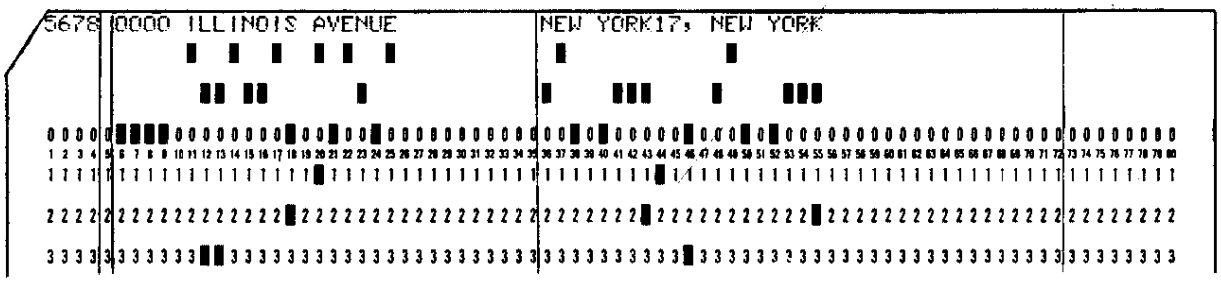
EXAMPLE: "Periodical Card" (1 per journal)



The "direct order card" contains in

Columns	1-4	Index number for this journal
	5	1 for last card for this journal block - zero otherwise
	6-35	Street address (for distributor)
	36-65	City and state

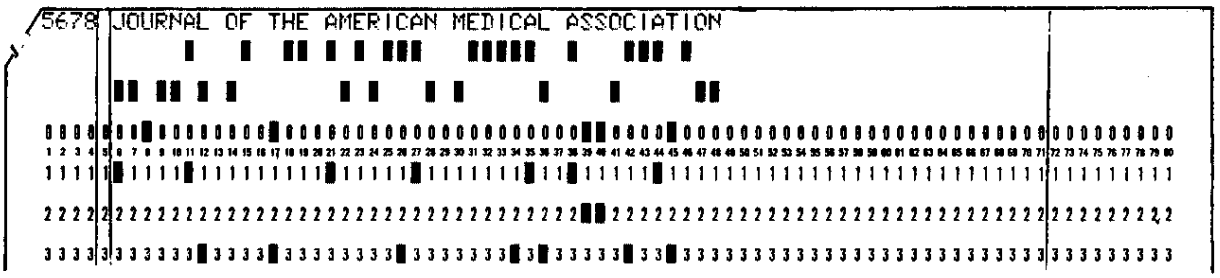
EXAMPLE: "Direct Order Card" (1 per journal if column 42 in periodical card is zero or blank. If column 42 = 1, this card is not necessary.)



The "information cards" contain in

Columns	1-4	Index number for this journal
	5	1 for last card for this journal block - zero otherwise
	6-71	Alphabetic information

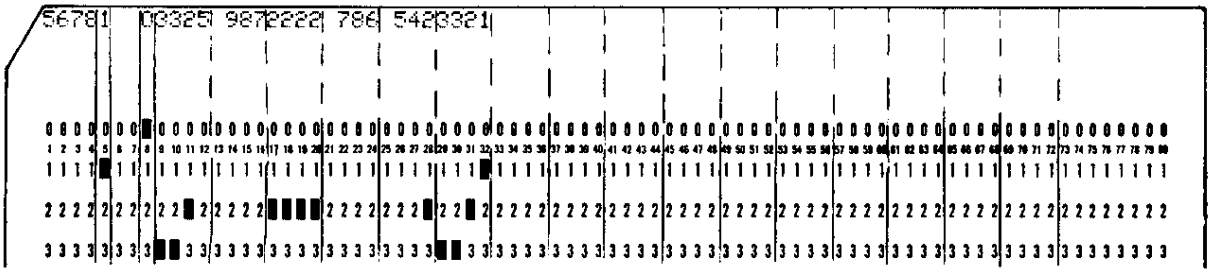
EXAMPLE: "Information Card" (6 per journal. The first should contain the full name of the periodical.)



The "distribution cards" contain in

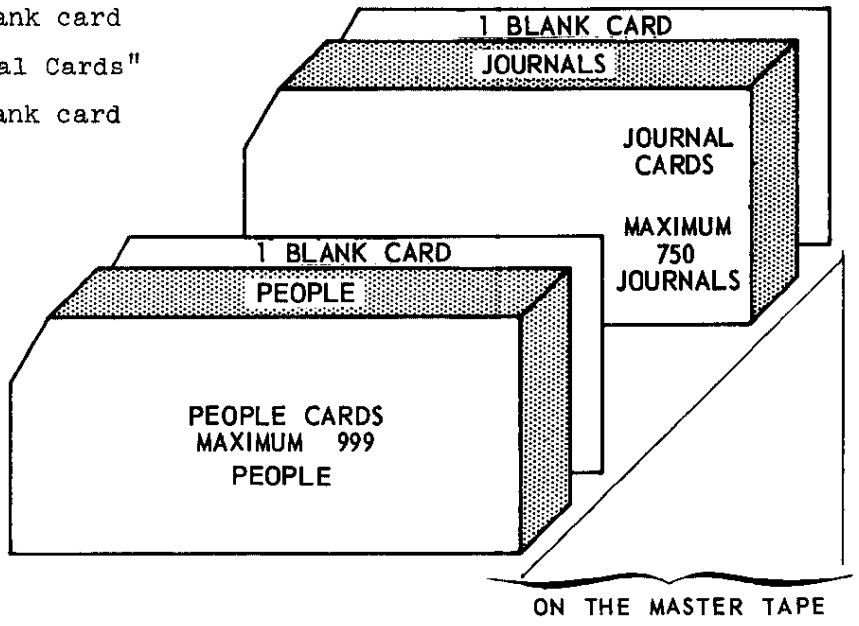
Columns	1-4	Index number for this journal
	5	1 for last card for this journal block - zero otherwise
	6-7	Blank
	8	1 for departmental copy - zero otherwise
	9-72	16 four-digit numbers corresponding to distribution list

EXAMPLE: "Distribution Cards"



The cards are arranged for the master tape as follows:

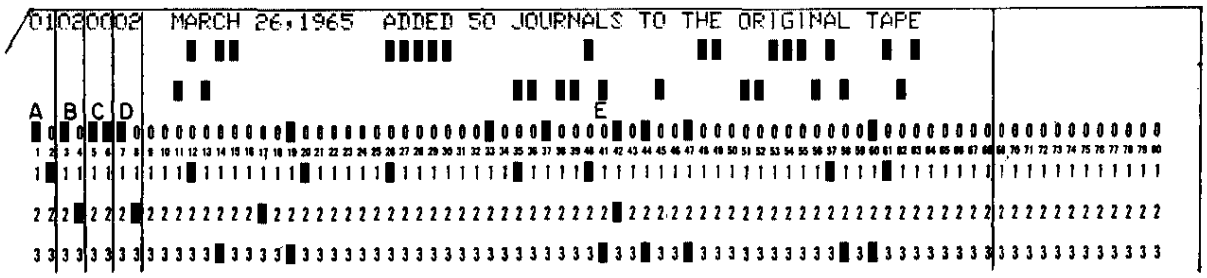
1. "People Cards"
2. One blank card
3. "Journal Cards"
4. One blank card



Updating Input

One master control card should be the first card of input immediately followed by the changes. If no changes are to be made, this will be the only input card. The control card should contain in

Columns	1-2(A)	01 if changes follow this card - zero otherwise
	3-4(B)	Output control card:
		00 - distribution lists and reorder lists only
		01 - list of circulating and reference room journals
		02 - list of the journal each person receives
	5-6(C)	01 - list of library holdings - zero otherwise
	7-8(D)	Month of this run
	9-68(E)	Alphanumeric information



Nine procedures for updating input are available, each slightly different from the others.

1. Add a name to the circulation list (alphabetical order).

2. Delete a name from the circulation list.

3. Change a name, number, or location for someone already on the circulation list.

4. Add a journal (alphabetical order).

5. Delete a journal.

6. Change a periodical card, a direct order card, or any of the 6 information cards.

7. Add an information card or a distribution card.

8. Delete an information or a distribution card.

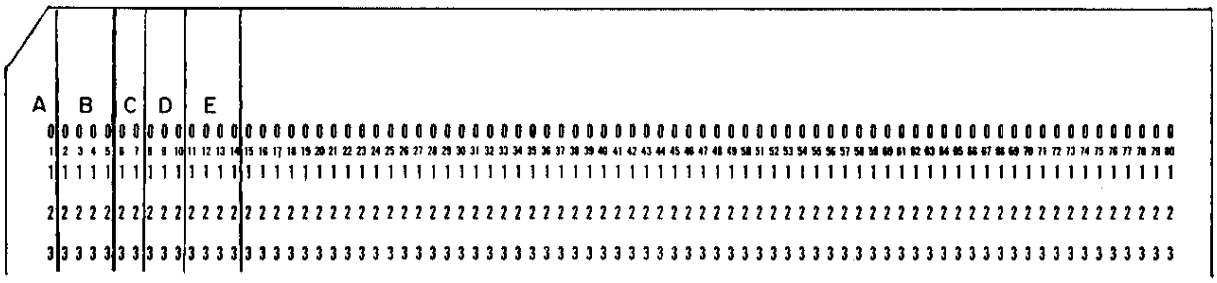
9. Change a distribution card.

Each of the nine categories (Example) requires one control card. "Delete" processes (categories 2, 5, 8) require the control card only. Change processes (categories 6, 9) require the control card plus the corrected card for replacement. The procedure for adding people, information cards, or distribution cards (categories 1, 7) control card plus the addition card. The changing of a name, location, or number for a person (category 3) requires two steps: (1) add the corrected card, (one control card plus the addition card); and (2) delete the old card (one control card only).

The addition of a journal (category 4) requires a control card plus the block of "journal cards" which belongs to that periodical.

EXAMPLE

The nine possible control cards are shown in the following format.



where: A = 1 for updating people
2 for updating journals

B = Index of object to be updated (person or journal index)

C = Index of operations to be performed

01 - Insert a person

02 - Delete a person

03 - Insert a journal

04 - Delete a journal

05 - Change a "journal card" or add, delete, or change a distribution card

D = Number of card which follows this control card (use D for <u>changes only</u>)

001 - Periodical card

002 - Direct order card

003-008 - Information card

901-950 - Distribution card

E = Case I - for additions of people or journal, E = index of the person or journal this addition should <u>follow</u>

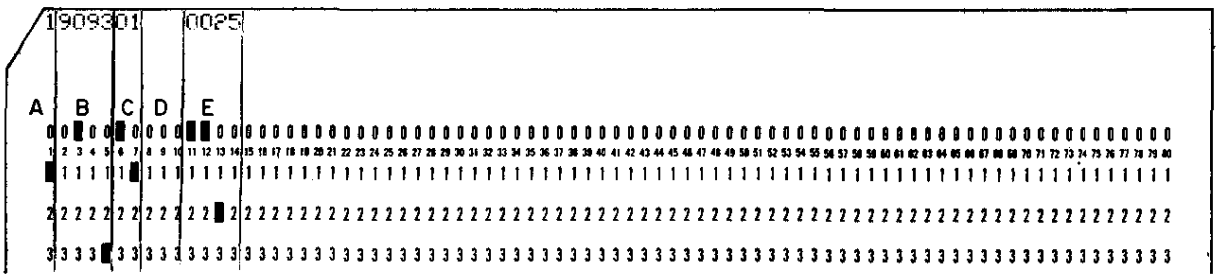
Case II - for change of any "journal" card, E = 0000

Case III - for addition of a distribution card or an information card, E = 0001

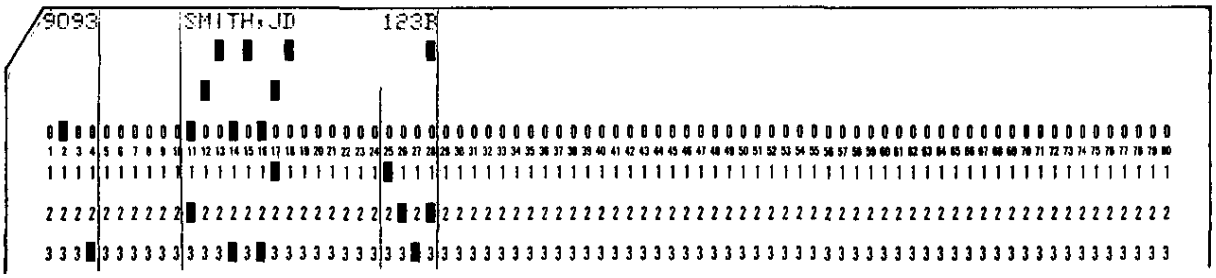
Case IV - for deletion of a distribution card or an information card, E = 0002

The nine control cards are prepared according to the instructions on the preceding page.

1. Add a name to circulation list (2 cards)

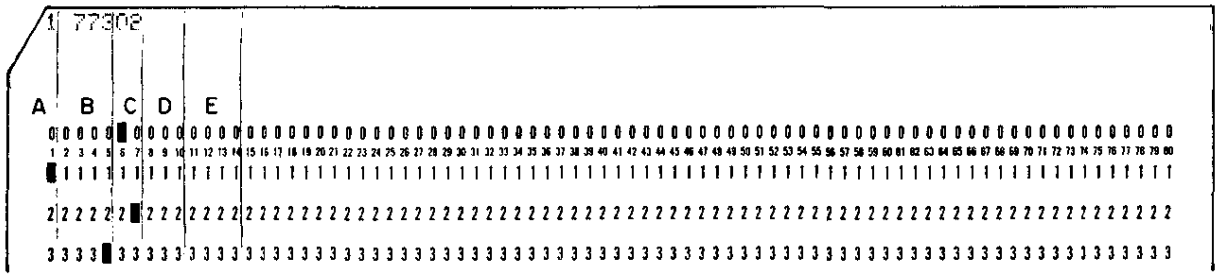


Control card



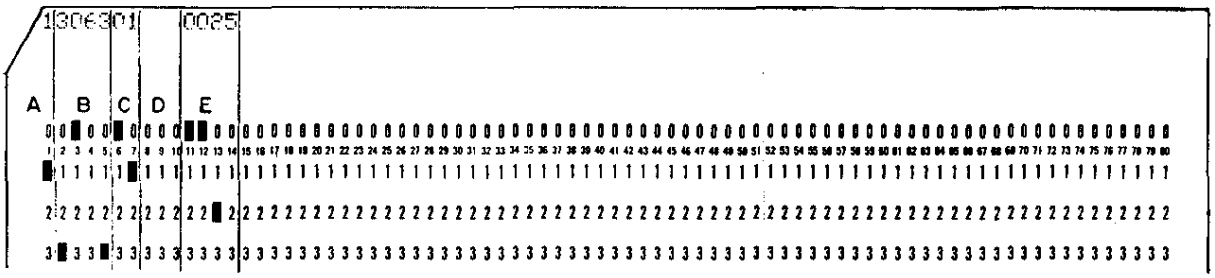
Addition card

2. Delete a name from circulation list (1 card)

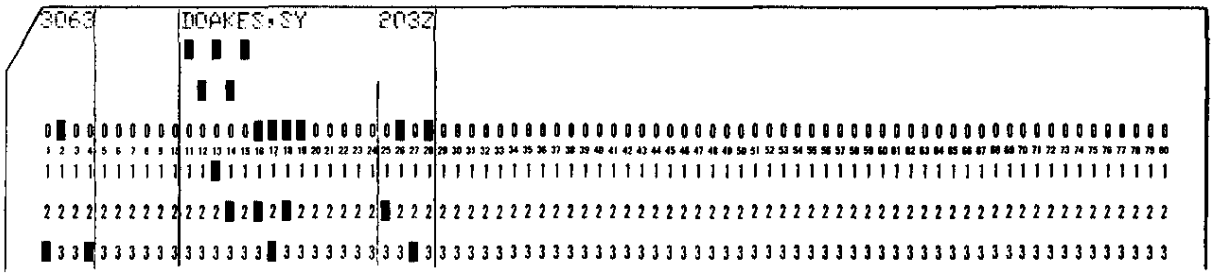


Control card

3. Change a name, number, or location for someone already on the circulation

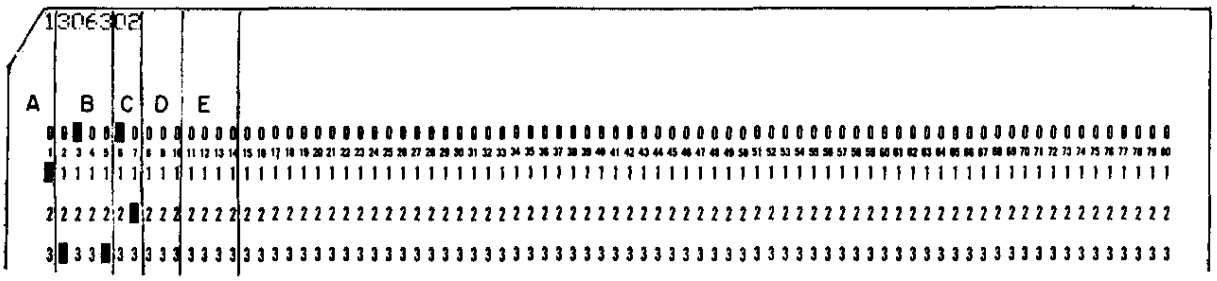


Control card
(insert correct card)



Step I

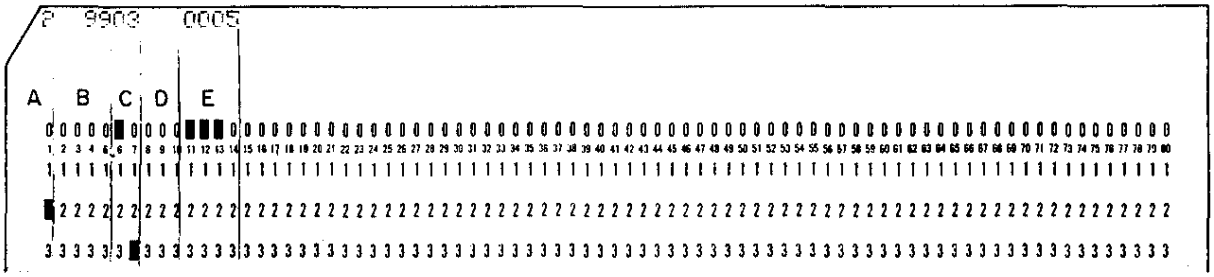
Corrected card



Step II

Control card
(delete the wrong card)

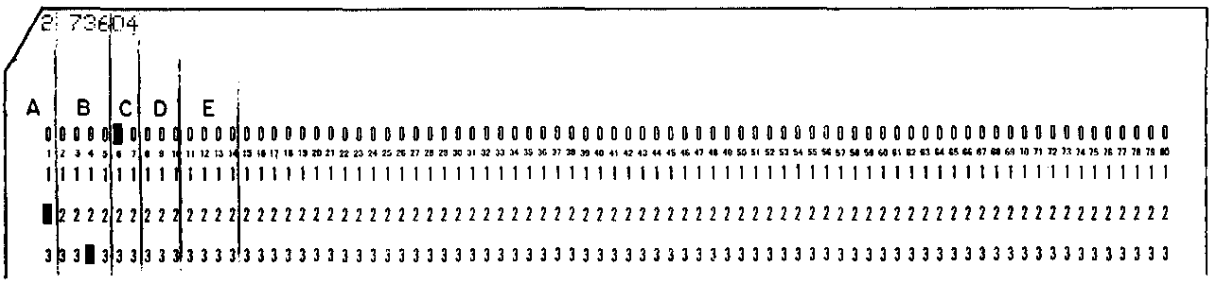
4. Add a journal (1 control card and "journal cards")



Control card

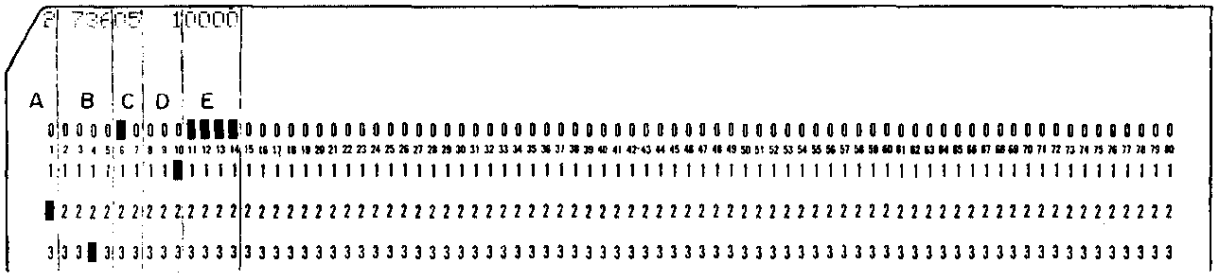
"Journal" Cards - The control card must be followed by a periodical card, direct order card if necessary, 6 information cards, and the distribution cards for the new journal.

5. Delete a journal (1 card)



Control card

6. Change a periodical card, a direct order card, or any of the 6 information cards (2 cards)

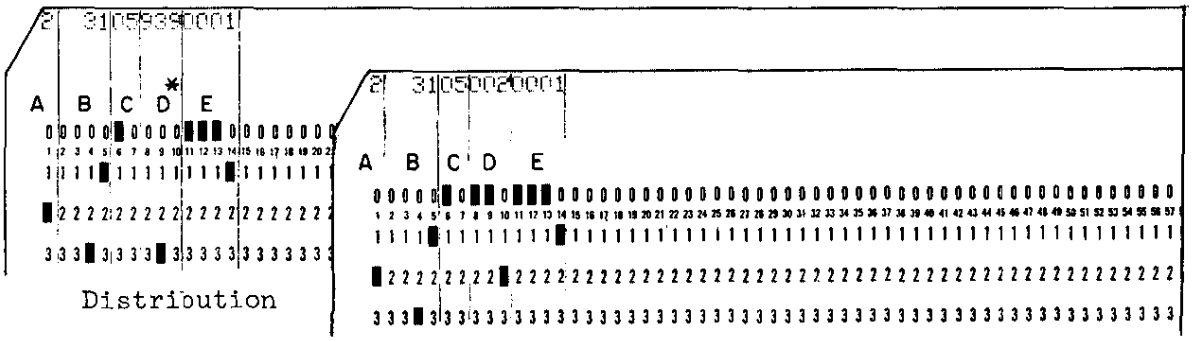


Control card

NOTE: See the list for D for proper numbers to use.

Corrected Card - The corrected card must follow this control card, and it must be in the format described for the card corresponding to the number in D.

7. Add a distribution or information card (2 cards)

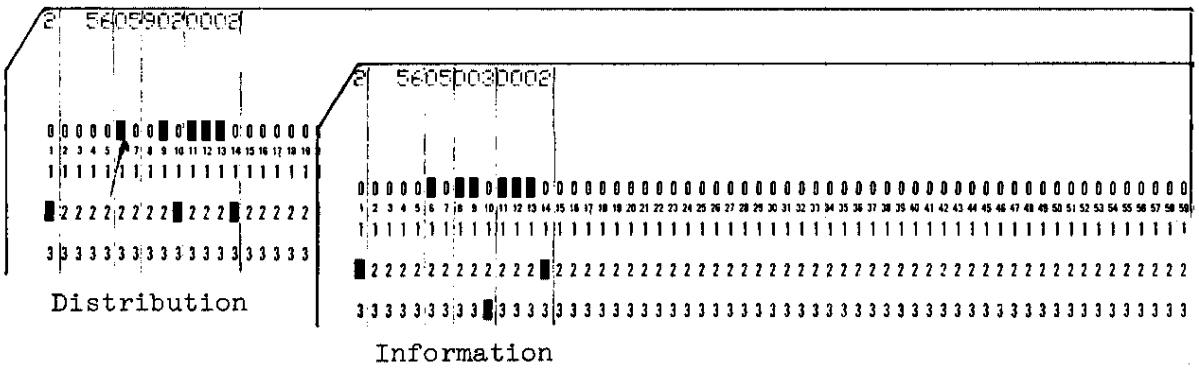


Control card

*NOTE: D must be 901 or greater to indicate that this is a distribution card - the number itself is of no interest and will not conflict with existing cards.

Card to be added follows here.

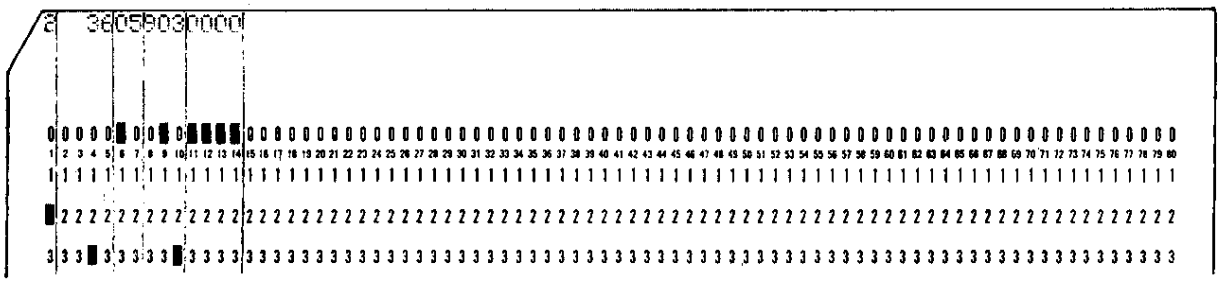
8. Delete a distribution or information card (1 card only)



Control card

NOTE: The last distribution card must never be deleted. Only changes should be made to the last card.

9. Change a distribution card (2 cards)



Control card

The corrected distribution card should follow this control card.

The following rules should be used in setting up the changes.

(1) The master control card must precede the changes.

(2) Change, add, or delete the circulation list first and in the same sequence as the tape.

(3) Change, add, or delete "journal cards" in the same sequence as they appear on the tape.

(4) Within each journal block, make changes, additions, or deletions as they appear within the block. The prescribed order is: periodical card, direct order card, information cards, and distribution cards.

(5) The last card of the "change" input should be blank.

SAMPLE OUTPUT

The distribution lists and the reorder lists are standard for each run. A distribution list is printed X times for each copy of each journal, where X is related to the frequency of publication. If the journal is published weekly, 5 copies of each distribution card are printed for each month's run; if biweekly, 2 copies; if monthly, bimonthly, quarterly or irregularly, 1 copy.

The reorder list contains the names and addresses of the journals which should be reordered two months from each run.

The complete lists of circulating and reference room copies and library holdings are available if indicated on the master control card for each run. The list of journals circulated to each person is also optional.

Sample Output from the Program

THE FOLLOWING JOURNALS ARE CIRCULATED AT PRESENT

INSTRUMENTATION
INSTR + CONTROL SYSTEMS
INSULATION
IAEA BULLETIN
IBM JOURNAL OF RES + DEV
IBM SYSTEMS JOURNAL
INTL CHEMICAL ENG
INTL J AIR + WATER POLLU
INTL J APPL RAD + ISOTOP
INTL J POWDER METALLURGY
INTL REVUE GESAMTEN HYDR
INTL SCI + TECHNOLOGY
INTERSTATE COM COMMI REG
IRON AGE
IRON + STEEL INSTITUTE J
ISOT + RADIATION TECHN
JT RES + DEV PROG QT DIG
J AGRI + FOOD CHEMISTRY
J ANAL CHEM OF THE USSR
J ANIMAL ECOLOGY
J APPLIED MECHANICS
J APPLIED PHYSICS
J BASIC ENGINEERING
J CHEMICAL + ENGR DATA
J CHEMICAL DOCUMENTATION
J CHEMICAL PHYSICS
J CHROMATOGRAPHY
J CRIM LAW + CRIMN + P S
J DAIRY SCIENCE
J ECOLOGY
J ELECTROANALYTICAL CHEM
J ENGINEERING FOR INDUST
J ENGINEERING FOR POWER
J FLUID MECHANICS
J GAS CHROMATOGRAPHY
J HEAT TRANSFER
J INORG + NUCLEAR CHEM
J MARINE RESEARCH
J MATHEMATICAL PHYSICS
J MATHEMATICS + MECHANIC
J MECH + PHYS OF SOLIDS
J METALS
J MOLECULAR SPECTROSCOPY
J NUCLEAR ENERGY
J NUCLEAR MATERIALS
J NUCLEAR MEDICINE
J ORGANIC CHEMISTRY
J PHYSICAL CHEMISTRY
J QUANT SPECT + RAD TRAN
J RES NBS SEC C ENG + IN
J SCIENTIFIC INSTRUMENTS
J SOUND + VIBRATION
J AM SOC SAFETY ENGINEER
J LESS-COMMON METALS
JUST BETWEEN OFFICE GIRL
KIPLINGER WASH LETTER
KOLLOID ZEITECHRIFT
LABOR SERVICES
LABOR STATISTICS
LABORATORY PRACTICE
L C CLASS, ADD + CHANGES
LIBRARY JOURNAL
LIBRARY LITERATURE
LIFE
LIGHT METAL AGE
LIGHT METALS
LIMNOLOGY + OCEANOGRAPHY
LOCAL CLIMATOLOGICAL D
LOCOMOTIVE
LUBRICATION ENGINEERING
MACHINE DESIGN
MAGAZINE OF STANDARDS
MAINTENANCE
MANAGEMENT INFORMATION
MANAGEMENT REVIEWS
MANAGEMENT SCIENCE
MANAGERS LETTER
MANUAL CLASSIF PATENTS
MARINE BIOL ASSOC, UK, J
MATERIAL HANDLING ENG
MATERIALS EVALUATION
MATERIALS IN DESIGN ENG
MATERIALS PROTECTION
MATERIALS RES + STANDARD
MATHEMATICAL REVIEWS
MATHEMATICS OF COMPUT
MEASUREMENT TECHNIQUES
MECHANICAL ENGINEERING
METAL FINISHING
METAL PROGRESS
METAL SCI + HEAT TR MET
METAL TREATING
METALL
METALLURGIA
METALLURGICAL REVIEWS
METALLURGIE
METALS ENGINEERING Q
METALS REVIEW
METALSCOPE
MIKROCHIMICA ACTA
MISSILES + ROCKETS
MODERN CASTINGS
MODERN MATERIALS HANDL
MODERN METALS
MODERN PLASTICS
NUCLEAR INDUSTRY

DAHLEN,PA 704C

THIS IS A LIST OF JOURNALS CIRCULATED TO YOU BY TIS. IF YOU NO LONGER DESIRE TO READ A PARTICULAR JOURNAL, OR IF YOU DESIRE TO ADD ONE OR MORE JOURNALS FROM THE ATTACHED LIST, PLEASE INDICATE AND RETURN TO TIS.

1 CALENDAR OF MEETINGS
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3 CHEM ENG PROGRESS
4 ENGINEERING RESEARCH REV
5 IND + ENG CHEMISTRY
6 IND + ENG CHEM FUNDAMENT
7 IND + ENG CHEM, PD + D
8 IND + ENG CHEM, PR + D

ACAD SCI USSR PROC CHM S

BIMONTHLY COPY 1

PLEASE READ PROMPTLY

1	SIDDALL,TH	773A
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17	TIS	773A

ACTA CRYSTALLOGRAPHICA

MONTHLY COPY 1

PLEASE READ PROMPTLY

1	CORYMAN,WR	773A
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15		
16	READING ROOM	773A
17	TIS	773A

ADMIN MANAGEMENT

MONTHLY COPY 1

PLEASE READ PROMPTLY

1	RIGGIN,EE	703A
2	HAYES,GF	703A
3	SLOAN,WM	703A
4	VALDIS,AA	703A
5	MARSH,CT	703A
6	MURDOCK,JS	232H
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15		
16	READING ROOM	773A
17	TIS	773A

AIR COND + REFRIG BUS.

MONTHLY COPY 1

PLEASE READ PROMPTLY

1	BECK,LH	703A
2	OHARA,JP	717A
3	PARKES,AN	679G
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15		
16	READING ROOM	773A
17	TIS	773A

AIR COND HEAT + REFRIG N

WEEKLY COPY 1

PLEASE READ PROMPTLY

1	TRUITT,GS	703A
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16	DEPARTMENTAL	COPY
17	TIS	773A

AIR COND HEAT + REFRIG N

WEEKLY COPY 1

PLEASE READ PROMPTLY

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16	DEPARTMENTAL	COPY
17	TIS	773A

AIR COND HEAT + REFRIG N

WEEKLY COPY 1

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1 TRUITT,GS 703A
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16 DEPARTMENTAL COPY
17 TIS 773A

AIR COND HEAT + REFRIG N

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16 DEPARTMENTAL COPY
17 TIS 773A

AIR COND HEAT + REFRIG N

WEEKLY COPY 1

PLEASE READ PROMPTLY

1 TRUITT,GS 703A
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16 DEPARTMENTAL COPY
17 TIS 773A

AIR COND HEAT + VENT

MONTHLY COPY 1

PLEASE READ PROMPTLY

1 THOMPSON,TT 773A
2 GUYTON,DC 773A
3 TRUITT,GS 703A
4 BRESKE,TC 703A
5 VILLEMAIN,MW 706H
6
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14
15
16
17 TIS 773A

AIR COND HEAT + VENT

MONTHLY COPY 2

PLEASE READ PROMPTLY

1 BECK,LH 703A
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15
16 DEPARTMENTAL COPY
17 TIS 773A

AMBER-HI-LITES

BIMONTHLY COPY 1

PLEASE READ PROMPTLY

1 BAUMANN,EW 773A
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15
16 DEPARTMENTAL COPY
17 TIS 773A

AM ASSOC COST ENGRS BULL

QUARTERLY COPY 1

PLEASE READ PROMPTLY

1	HERRIES,RR	305M
2		
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16	DEPARTMENTAL	COPY
17	TIS	773A

AM CHEM SOC J

BIWEEKLY COPY 2

PLEASE READ PROMPTLY

1	MORRISON,JO	773A
2	PROUT,WE	773A
3	WILHITE,RN	773A
4	GROH,HJ	773A
5	SIDDALL,TH	773A
6	MEYER,LH	773A
7	KARRAKER,DG	773A
8	PORTER,JA	773A
9	HYDER,ML	773A
10	EUBANKS,ID	773A
11	BAUMANN,EW	773A
12	BAILEY,CE	773A
13	RANDALL,D	773A
14	CORYMAN,WR	773A
15	DUKES,EK	773A
16	HOLCOMB,HP	773A
17	TIS	773A

AM CHEM SOC J

BIWEEKLY COPY 2

PLEASE READ PROMPTLY

1	MORRISON,JO	773A
2	PROUT,WE	773A
3	WILHITE,RN	773A
4	GROH,HJ	773A
5	SIDDALL,TH	773A
6	MEYER,LH	773A
7	KARRAKER,DG	773A
8	PORTER,JA	773A
9	HYDER,ML	773A
10	EUBANKS,ID	773A
11	BAUMANN,EW	773A
12	BAILEY,CE	773A
13	RANDALL,D	773A
14	CORYMAN,WR	773A
15	DUKES,EK	773A
16	HOLCOMB,HP	773A
17	TIS	773A

AM CHEM SOC J

BIWEEKLY COPY 3

PLEASE READ PROMPTLY

1	PROPST,RC	773A
2	NICHOLS,GS	773A
3	JONES,WS	773A
4	THOMPSON,MC	773A
5	OWEN,JH	773A
6	ALBENESIUS,EL	773A
7	FERNANDEZ,LP	773A
8	HENNELLY,EJ	773A
9	CARLSON,AB	773A
10	NEEL,RB	773A
11	CROLEY,JJ	735A
12	WATTERS,FS	221F
13	DUANE,JP	772F
14	KOTTI,KS	234H
15	CAVERLY,MR	232H
16	GILMER,GE	105P
17	TIS	773A

AM CHEM SOC J

BIWEEKLY COPY 3

PLEASE READ PROMPTLY

1	PROPST,RC	773A
2	NICHOLS,GS	773A
3	JONES,WS	773A
4	THOMPSON,MC	773A
5	OWEN,JH	773A
6	ALBENESIUS,EL	773A
7	FERNANDEZ,LP	773A
8	HENNELLY,EJ	773A
9	CARLSON,AB	773A
10	NEEL,RB	773A
11	CROLEY,JJ	735A
12	WATTERS,FS	221F
13	DUANE,JP	772F
14	KOTTI,KS	234H
15	CAVERLY,MR	232H
16	GILMER,GE	105P
17	TIS	773A

AM DOCUMENTATION

QUARTERLY COPY 1

PLEASE READ PROMPTLY

1	FELDMAN,MS	773A
2	OSWALD,JL	773A
3	KAUER,E	773A
4	SCOTT,WB	773A
5	MC MORRILL,PL	773A
6	GREGORY,JE	703A
7	TRUEBLOOD,EJ	703A
8		
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15		
16	LOBBY	703A
17	TIS	773A

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HANDLING PROCEDURES AND OPERATING INSTRUCTIONS

Handling procedures are simple and straightforward. The library staff keeps a card file which is set up like the master tape. It is updated periodically and it is from this file that the master tape is updated.

The master tape is made only once (CTX, off-line). It is updated each month if necessary, and printed off-line. The output is printed off-line.

The program is kept in the machine room. The master control card and the change cards are submitted with an instruction card.

Operating instructions are as follows: The master tape from the previous run is mounted on tape unit 6. All input is put on tape 7. If changes are made, the new master tape is generated on tape 8. The old master tape on unit 6 is marked and retained; the new master tape is labeled, dated, and stored.

Output is on unit 10. Units 4 and 5 are scratch tapes. Instructions from the printer are pertinent. An HPR 12345 on the console indicates the end of the run. The output tape is printed off-line, 8 lines per inch, on unlined paper. If the master tape was updated, the new master tape is printed off-line, <u>without</u> carriage control before it is stored.

FORTRAN Listing of the Program

```
C       03-11-65   JOURNAL PROGRAM MAIN PROGRAM  SKELTON  8270
C
        DIMENSION A(95),N(500),C(20800),NA(95),NI(16),IX(400),NC(20800)
       1,KPN(1000)
        COMMON C,BLANK,  N,A,NI,IX ,KPN
        COMMON MONTH,NAMNO,MAXPER,MAXJNL,NAMJNL,KIN,LIMM,LIMM2,KINN
        EQUIVALENCE (NC(1),C(1)),(BLANK,BLANK),(N(1),N(1)),(NA(1),A(1))
C
        DIMENSION  D(10)
C
        MAXPER = 990
        NAMNO = 3
        MAXJNL = 750
        NAMJNL = 4
B       BLANK=606060606060
C
        NOUT=10
        NIN=7
 1000 FORMAT( 4I2,  10A6)
C
        KIN = NAMNO*MAXPER
        KINN = MAXPER + 1
        LIMM2 = MAXJNL * NAMJNL
        LIMM = MAXJNL + 1
C
        READ INPUT TAPE NIN, 1000,LA,NB,LC,MONTH, (D(J),J=1,10)
C       LA= 01 FOR  CHANGE CARDS TO FOLLOW.,00 OR BLANK FOR NO CHANGES.
C       NB= 00  FOR DISTRIBUTION AND REORDER LISTS ONLY.
C       NB= 01  FOR LIST OF CIRCULATING AND REFERENCE ROOM COPIES,
C                 IN  ADDITION TO THE ABOVE.
C       NB= 02 FOR PEOPLE NOTIFICATION, IN ADDITION TO THE ABOVE.
C       LC= 01  IF LIST OF HOLDINGS IS DESIRED.
C       LC= 00 NO LIST NEEDED.
C       MONTH =  NUMBER OF MONTH OF THIS RUN
C       D= SIXTY ALPHABETIC LETTERS  OF INFORMATION. ( 10A6)
C
C
        IF (LA) 90,90,20
   90 PRINT 1003
 1003 FORMAT (1H1,95HCHANGE SET UP ON TAPES.  DIAL OFF SCRATCH ON UNIT
      18.  DIAL TAPE E-II-10 FROM UNIT 6 TO UNIT 8. ///26HPRESS START
      2TO MAKE RUN.)
        PAUSE 22022
        GO TO 10
C
   20 CALL CHANGE
   10 CALL TAPMAK
        CALL PERSTP
C
        NB=NB+1
        GO TO (50,40,30),NB
C
   30 CALL BLURB 2
```

```
C
   40 CALL SUBLST
C
   50 CALL PRLIST
      CALL SBORDR
C
      IF (LC)60,60,70
   70 CALL BLURB1
C
   60 WRITE OUTPUT TAPE NOUT, 1001,(D(J),J=1,10)
      PRINT 1001,(D(J),J=1,10)
 1001 FORMAT( 1H1 ,61H THIS  TIS  RUN OF THE  JOURNAL LIBRARY PROGRAM IS
     1COMPLETED.  //  10A6///  5X,29H DISMOUNT TAPE 10, PULL  RING //
     2                10X, 17H PRINT OFF-LINE    /
     3                10X, 17H 8 LINES PER INCH  /
     4                10X, 17H CARRIAGE TAPE 42  /
     5                10X, 17H FORTRAN CHAIN     //
     6   10X, 17H UNLINED PAPER   ,///)
C
      PRINT 1002
 1002 FORMAT(1HO, 38HSAVE TAPE 8.  DISMOUNT,  PULL RING,  LABEL AS
     1FOLLOWS// 26X, 15HJURN INPUT TAPE/
     2          26X, 15HDATE           /
     2          26X, 15HE-II-10        /15X, 21H STORE AS INSTRUCTED.)
C
      IF(LA) 100,100,101
C
  101 PRINT 1005
      PRINT 1004
 1004 FORMAT(1HO, 39HSAVE TAPE 6. DISMOUNT, LABEL AS FOLLOWS//
     1  26X, 15HOLD JURN INPUT /
     2  26X, 15HDATE           /
     3  26X, 15HE-II-9         /
     4  15X, 20HSTORE AS INSTRUCTED.)
C
 1005 FORMAT(1HO, 50HPRINT TAPE 8 OFF-LINE.  BE SURE TO PRINT COLUMN 1.)
C
  100 PAUSE 12345
      END(2,0,0,0,0)
```

```
C      04-12-65      CHANGE        8270     SKELTON      JURN  UPDATE
       SUBROUTINE CHANGE
C
       DIMENSION   A(95), N(500), C(20800), NA(95), NI(16), IX(400)
      1, NC(20800), KPN(1000)
       COMMON C, BLANK,N,A,NI,IX,KPN
       COMMON MONTH, NAMNO, MAXPER, MAXJNL, NAMJNL, KIN, LIMM, LIMM2,
      1KINN
       EQUIVALENCE ( NC(1), C(1)),(BLANK, BLANK), (N(1), N(1)), (NA(1),
      1A(1))
C
C      CONTROL CARD FOR EACH CHANGE MUST CONTAIN THE FOLLOWING.
C           COL. 1     NA=1  FOR .PEOPLE RECORDS.
C                         2  FOR  JOURNAL RECORDS.
C           COL.2-5  NB= INDEX  OF THE OBJECT TO BE CHANGED. I.E., PEOPLE
C                        OR  JOURNAL INDEX.
C           COL. 6-7  NC= 01  ADD A PERSON (*)
C                       = 02  DELETE  A PERSON.
C                       = 03  ADD  A  JOURNAL (*)
C                       = 04  DELETE  A  JOURNAL.
C                       = 05  CHANGE AN INFO OR DISTRIBUTION CARD.(**)
C           COL.8-10  NUMBER OF JOURNAL CARD WHICH FOLLOWS- USE FOR
C                     CHANGES ONLY.
C                     ND= 001  PERIODICAL CARD.
C                       = 002  DIRECT ORDER CARD-
C                       = 003  FULL NAME CARD-
C                       = 004 - 009  INFORMATION CARD.
C                       = 901 - 950  DISTRIBUTION CARD. (**)
C        * COL.11-14 CASE I. IF NC= 1  OR  NC= 3,
C                     NE=  INDEX  OF THE RECORD WHICH THE INSERTION
C                          SHOULD  FOLLOW,,,  FOLLOW. (KEEPS ALPHABETICAL
C        **           CASE II.   NC= 5  AND   ND=A NINE HUNDRED NUMBER.
C                     NE= 0000  CHANGE THE INDICATED DISTRIBUTION CARD.
C                     NE= 0001 ADD THIS DISTRIBTUION CARD AT END, BUT
C                          BEFORE THE LAST CARD FOR THIS JOURNAL.
C                     NE= 0002  DELETE THE SPECIFIED DISTRIBUTION CARD.
C
C           MAXIMUM  NUMBER OF  CHANGES  PER  RUN  IS  500.  CHANGES
C           ARE TERMINATED BY A BLANK CARD.
C
       NEW = 8
       NOLD = 6
       NCHG = 7
       NHERE = 1
 1000 FORMAT(I1, I4, I2, I3, I4)
C
    5  IF(NEND) 505,255,505
  255  READ INPUT TAPE NCHG, 1000, MA, NB, MC, ND, NE
C      IF MA =0, END OF CHANGES.  COPY OLD TAPE TO NEW FROM THIS POINT.
       IF (MA) 2, 1, 2
C
    2  GO TO (3,4),MA
C
    3  IF (NHERE-1)6,6,7
    7  PRINT 999
  999 FORMAT( 1H1, 83H CHANGE CARD IS OUT OF PROPER SEQUENCE.  HIT START
     1TO IGNORE THIS CARD AND CONTINUE.//)
       PAUSE 22022
```

```
C
      CALL SKIP (MA, NB, MC, ND, NE)
      GO TO 5
C
C
C
C     ADD A PERSON-
    6 GO TO (20,30,40,50,60), MC
   20 DO 11 K=1,1000
      READ INPUT TAPE NOLD, 1001, NUM, B, X, Y, Z
 1001 FORMAT( I4, F6.1,  3A6)
      WRITE OUTPUT TAPE NEW,1001, NUM, B, X, Y, Z
      IF (NUM) 12, 13, 12
   12 IF (NUM - NE) 11, 14, 11
   11 CONTINUE
C
   14 READ INPUT TAPE NCHG, 1001, NUM, B, X, Y, Z
      WRITE OUTPUT TAPE NEW, 1001, NUM, B, X, Y, Z
      GO TO 5
C
C     DELETE A PERSON.
   30 READ INPUT TAPE NOLD, 1001, NUM, B, X, Y, Z
      IF (NUM)25,13,25
   25 IF (NUM-NB)31,32,31
   31 WRITE OUTPUT TAPE NEW, 1001, NUM, B, X, Y, Z
      GO TO 30
C
   32 GO TO 5
C
C
C
   13 NHERE=2
      PRINT 997
  997 FORMAT(1HO, 90H YOU HAVE DEPLETED THE PEOPLE RECORDS. TAPE IS POSI
     1TIONED AT FIRST OF THE JOURNAL RECORDS./  1H , 58H CHECK YOUR INPU
     2T.  APPARENTLY A CARD IS OUT OF SEQUENCE.//)
      PAUSE 22002
C
C     SECTION II  IS THE JOURNAL AND DISTRIBUTION INFORMATION.
C
    4 IF (NHERE -2)8, 10, 8
C
    8 READ INPUT TAPE NOLD, 1001, NUM, B, X, Y, Z
      WRITE OUTPUT TAPE NEW, 1001, NUM, B, X, Y, Z
      IF (NUM) 8, 15, 8
   15 NHERE =2
   10 GO TO (20,30,40,50,60), MC
C
C     INSERT A JOURNAL.
   40 IF(NDX-NE) 440,140,440
  440 READ INPUT TAPE NOLD, 1002,NDX,LAST,(C(J),J=1,5),(NI(J),J=2,6),
     1(C(J),J=6,10)
 1002 FORMAT(I4,I1,4A6,A5,I3,2I1,I2,I1,5A6)
      WRITE OUTPUT TAPE NEW,1002,NDX,LAST,(C(I),I=1,5),(NI(I),I=2,6),
     1(C(I),I=6,10)
      IF (NDX)41,151,41
  151 NP = 1
      GO TO 140
```

```
C
   41 IF (NI(6))42,43,42
   42 NCRD= 3
      GO TO 44
   43 NCRD = 2
   44 DO 45 I=NCRD,8
      READ INPUT TAPE NOLD, 1003, NDX, NO, (A(K), K=1,11)
   45 WRITE OUTPUT TAPE NEW, 1003, NDX, NO, (A(K), K=1,11)
 1003 FORMAT(I4,I1,11A6)
C
   46 READ INPUT TAPE NOLD, 1004, NDX, NO, NP, NDPT,(NI(K),K=1,16)
      WRITE OUTPUT TAPE NEW,1004, NDX, NO, NP, NDPT, (NI(K),K=1,16)
      IF (NO) 46,46,47
 1004 FORMAT(I4,I1,I2,I1,16I4)
C
   47 IF (NDX-NE)40,140,40
C
  140 READ INPUT TAPE NCHG, 1002, NDX, LAST, (C(K),K=1,5), (NI(K),K=2,6)
     1,(C(K), K=6,10)
      WRITE OUTPUT TAPE NEW, 1002, NDX, LAST,(C(K),K=1,5),(NI(K),K=2,6),
     1(C(K),K=6,10)
      IF (NI(6))142,143,142
  142 NCRD=3
      GO TO 144
  143 NCRD=2
  144 DO 145 I=NCRD,8
      READ INPUT TAPE NCHG,1003, NDX, LAST, (A(K), K=1,11)
  145 WRITE OUTPUT TAPE NEW, 1003, NDX, LAST, (A(K),K=1,11)
C
  146 READ INPUT TAPE NCHG,1004, NDX, NO, NP, NDPT, (NI(K),K=1,16)
      WRITE OUTPUT TAPE NEW,1004,NDX, NO, NP, NDPT, (NI(K),K=1,16)
      IF (NO) 146,146,152
  152 READ INPUT TAPE NCHG,1000, MA, NB, MC, ND, NE
       IF(MA) 161,156, 161
  156 IF(NP) 155, 50, 155
  155 NEND=1
      BACKSPACE NCHG
      NDX = 0
      BACKSPACE NOLD
      GO TO 5
C
  161 IF(MC - 3) 162,163,162
  162 BACKSPACE NCHG
      GO TO 5
C
  163 IF(NE- NDX) 440,165,440
  165 GO TO 140
C
C
C
C
C
C
C     DELETE A JOURNAL.
```

```
C
   50 NFIND = 0
  150 READ INPUT TAPE NOLD, 1002, NDX, LAST, (C(K),K=1,5),(NI(K),K=2,6),
     1(C(K),K=6,10)
      IF(NDX)51,500,51
   51 IF(NDX-NB)52,59,52
   52 WRITE OUTPUT TAPE NEW,1002,NDX,LAST,(C(K),K=1,5),(NI(K),K=2,6),
     1(C(K),K=6,10)
      IF(NI(6))53,54,53
   53 NCRD=3
      GO TO 55
   54 NCRD=2
   55 DO 56 I=NCRD,8
      READ INPUT TAPE NOLD, 1003, NDX, LAST, (A(K), K=1,11)
   56 WRITE OUTPUT TAPE NEW, 1003, NDX, LAST, (A(K), K=1,11)
C
   57 READ INPUT TAPE NOLD, 1004, NDX, ND, NP, NDPT, (NI(K),K=1,16)
      WRITE OUTPUT TAPE NEW,1004, NDX, ND, NP, NDPT, (NI(K),K=1,16)
      IF(ND)57,57,58
   58 IF(NFIND-1)150,100,504
C
   59 READ INPUT TAPE NOLD,1004,NDX,ND
      IF (ND) 5,59,5
C
C
C
C     CHANGE JOURNAL  OR  DISTRIBUTION CARDS.
C
   60 NE = NE +1
      LOOP = 1
C     CHANGES ONLY.
  100 READ INPUT TAPE NOLD,1002, NDX,LAST,(C(K),K=1,5), (NI(K),K=2,6),
     1(C(K),K=6,10)
      NDE = 1
      IF(NDX) 502,500,502
  502 IF(NDX-NB) 503,504,503
  503 NFIND=1
      GO TO 52
  504 LOOP=2
      IF (ND-1) 105,102,105
  102 READ INPUT TAPE NCHG,1002, NDX, LAST,(C(K),K=1,5), (NI(K),K=2,6),
     1(C(K), K=6,10)
      WRITE OUTPUT TAPE NEW,1002,NDX, LAST,(C(K),K=1,5),(NI(K),K=2,6),
     1(C(K),K=6,10)
      READ INPUT TAPE NCHG, 1000, MA2,NB2,MC2,ND2,NE2
      IF(MA2)  300,  1, 300
  300 IF (NDX - NB2)119,703,119
  703 ND=ND2
      NE=NE2+1
      MC= MC2
      GO TO 115
  105 WRITE OUTPUT TAPE NEW,1002, NDX,LAST,(C(K),K=1,5),(NI(K),K=2,6),(C
     1(K),K=6,10)
      GO TO 115
  119 BACKSPACE NCHG
      ND=99
      NE= 1
```

```
  115 IF (NI(6)) 107,104,107
  107 NCRD=3
      GO TO 108
  104 NCRD =2
  108 IF (ND-901)101,99,99
   99 NDIST=ND-900
      NCNT=0
      NDE=9
      GO TO 78
  101 NDE=ND-1
      NDIST=0
      IF(NCRD-NDE) 78, 78, 110
  110 IF(NE-2) 112, 111, 113
  113 READ INPUT TAPE NOLD,1003,NDX
      GO TO 114
   78 DO 109 I=NCRD,NDE
      IF(I-9)79,98,98
   79 READ INPUT TAPE NOLD,1003, NDX, LAST, (A(K),K=1,11)
  109 WRITE OUTPUT TAPE NEW,1003,NDX, LAST, (A(K),K=1,11)
  112 READ INPUT TAPE NOLD,1003, NDX
  111 READ INPUT TAPE NCHG,1003, NDX, LAST,  (A(K),K=1,11)
      WRITE OUTPUT TAPE NEW, 1003, NDX, LAST,  (A(K), K=1,11)
C
C
  114 READ INPUT TAPE NCHG,1000, MA2,NB2,MC2,ND2,NE2
      IF(MA2) 301,  1,301
  301 IF(NB2-NDX)197,103,197
  197 BACKSPACE NCHG
      NE = 1
   97 NCRD=ND+1
      NDE=9
      GO TO 78
   98 LOOP=3
      IF(NE-2) 92,93,92
   92 READ INPUT TAPE NOLD,1004, NDX, NO, NP, NDPT, (NI(K),K=1,16)
      NCNT=NCNT+1
  219 IF(NCNT-NDIST)90,93,90
   90 WRITE OUTPUT TAPE NEW,1004,NDX,NO,NP,NDPT,(NI(K),K=1,16)
      IF(NO)5,92,5
   93 IF(NE-2) 195,195,189
  195 READ INPUT TAPE NCHG,1004, NDX,NO,NP,NDPT, (NI(K),K=1,16)
      WRITE OUTPUT TAPE NEW,1004,NDX, NO, NP, NDPT, (NI(K),K=1,16)
  189 READ INPUT TAPE NCHG,1000,MA2, NB2, MC2, ND2, NE2
      IF (MA2)302, 1,302
  302 IF(NB2-NDX)  125,103,125
C
C     SUBSEQUENT  CHANGES IN THE SAME JOURNAL GROUP.
C
  103 NE = NE2+1
      ND=ND2
      MC=MC2
      GO TO (201,202,203),NE
  201 GO TO (100,205,298),LOOP
  205 NCRD=NDE+2
      NDIST=0
      GO TO 108
  298 NDIST=ND-900
      GO TO 98
```

```
C
  202 GO TO (115,206,98),LOOP
  206 NCRD=NDE+2
      NDIST=0
      GO TO 108
C
  203 NDIST = ND-900
      GO TO (115,206,98),LOOP
C
C
  125 IF(NO) 27, 26, 27
   26 READ INPUT TAPE NOLD,1004,NDX,NO,NP,NDPT,(NI(K),K=1,16)
      WRITE OUTPUT TAPE NEW,1004,NDX,NO,NP,NDPT,(NI(K),K=1,16)
      GO TO125
C
C
   27 BACKSPACE NCHG
      GO TO 5
C
    1 NEND=99
      GO TO (304,305,303),LOOP
  304 ND=90
       GO TO 100
  305 NCRD=NDE+2
      NE = 1
      NDE = 90
      GO TO 78
  303 NE = 1
      GO TO 98
C
  505 IF(NDX) 501,500,501
  501 NB=999
      NFIND=0
      GO TO 50
C
  500 WRITE OUTPUT TAPE NEW,1002,
     1                          NDX,LAST,(C(K),K=1,5),(NI(K),K=2,6),(C(K),K=
     16,10)
      END FILE NEW
      REWIND NOLD
      REWIND NEW
      REWIND NCHG
      RETURN
C
      END(2,0,0,0,1)
```

```
C      03-09-65   SKIP A CHANGE CARD OUT OF ORDER.   SKELTON   8270
C
       SUBROUTINE SKIP (MA,NB,MC,ND,NE)
C
       NCHG= 6
C
 1000 FORMAT(I4,I1)
C
       GO TO (10, 500, 110, 500,  5), MC
C
    10 READ INPUT TAPE NCHG,1000,I
       GO TO 500
C
   110 READ INPUT TAPE NCHG,1000,I,N
       IF(N) 500,110,500
C
     5 NE = NE + 1
       GO TO ( 10, 10, 500), NE
   500 RETURN
C
C
       END(2,0,0,0,0)
```

```
C       3-29-65    SKELTON  TAPMAK    8270   JOURNAL PROGRAM
        SUBROUTINE TAPMAK
        DIMENSION A(95),N(500),C(20800),NA(95),NI(16),IX(400),NC(20800)
       1,KPN(1000)
        COMMON C,BLANK,  N,A,NI,IX ,KPN
        COMMON MONTH,NAMNO,MAXPER,MAXJNL,NAMJNL,KIN,LIMM,LIMM2,KINN
        EQUIVALENCE (NC(1),C(1)),(BLANK,BLANK),(N(1),N(1)),(NA(1),A(1))
C       READ CARDS TO SET UP PERSON INDEX, PERIODICAL INDEX, AND TABLE OR
C       DISTRIBUTION.  PERSON CARDS HAVE INDEX IN COLS 1-4, AND 18 LETTERS
C       OF NAME IN COLS 11-28. BLANK CARD TERMINATES PERSON READ
        NOUT=5
        NIN =NOUT
      1 NTIN=8
C
C       READ THE INPUT FOR THE NAMES OF THE PEOPLE TO WHOM THE JOURNAL IS
C       CIRCULATED.   SETS UP A LIST OF THE ALPHABETIC NAMES ACCORDING TO T
C       THE INDEX NUMBERS.
C
        DO 2 I=1,KINN
        READ INPUT TAPE NTIN,3,KPN(I),B,X,Y,Z
      3 FORMAT(I4,F6.1,3A6)
        IF (KPN(I)) 2,4,5
      5 NJ=3*(I-1)+1
        C(NJ)=X
        C(NJ+1)=Y
        C(NJ+2)=Z
      2 CONTINUE
      4 CONTINUE
        WRITE TAPE NOUT, (C(J),J=1,KIN )
C
        DO 40 I=1,LIMM2
     40 C(I)=0.0
C
C       PERIODICAL CARDS MAY HAVE 8 CARDS OF ALPHA INFORMATION AND UP TO
C       50 CARDS FOR DISTRIBUTION
C       COLS 1-4 INDEX OR PERIODICAL
C              5  1 FOR LAST CARD FOR THIS PERIODICAL.  0 OTHERWISE
C            6-29 NAME OF PERIODICAL
C             30 W FOR WEEKLY,B FOR BIWEEKLY,M FOR MONTHLY,2 FOR BIMONTHLY
C                Q FOR QUARTERLY, AND I FOR IRREGULAR
C             36-37 NUMBER OF COPIES ORDERED
C             38  1 FOR HOLDINGS ONLY--0 OTHERWISE
C             39  1 FOR REFERENCE ROOM COPY ONLY--0 OTHERWISE
C             40-41 MONTH ORDERED. 1 FOR JANUARY, ETC.
C             42  1 IF ORDERED THROUGH VENDOR.  0 OTHERWISE
C             43-72 NAME OF DISTRIBUTOR FOR DIRECT ORDER
C       NEXT CARD ONLY IF DIRECT ORDER
C             1-5 SAME AS ABOVE
C            6-35 STREET ADDRESS
C             36-65 CITY AND STATE
C       THEN 6 CARDS OF GENERAL INFORMATION
C             1-5 SAME AS ABOVE
C             6-71  ALPHABETIC INFORMATION
C       FOLLOWING CARDS FOR DISTRIBUTION OF PERIODICALS
C             1-5 SAME AS ABOVE
C             6-7 OPEN
C             8  1 IF DEPARTMENTAL COPY.  0 OTHERWISE
C           9-72 16 FOUR DIGIT NUMBERS CORRESPONDING TO DISTRIBUTION LIST
C       BLANK CARD TERMINATES READ FOR PERIODICALS
```

```
C
      DO 6 I=1,LIMM
      READ INPUT TAPE NTIN,7,K,J,X,Y,Z,V,U,N1,N2,N33,N3,N4,(A(L),L=13,17
     1)
    7 FORMAT(I4,I1,4A6,A5,I3,2I1,I2,I1,5A6)
      IF(K)9,8,9
    9 NJ=4*(K-1)+1
      NA(1)=K
      C(NJ)=X
      C(NJ+1)=Y
      C(NJ+2)=Z
      C(NJ+3)=V
C
C     TESTING FOR THE FREQUENCY OF PUBLICATION.   WHEN TEST=U-1.0EX
C     THE 1.0EX HAS SOMETHING TO DO WITH THE INTERNAL REPRESENTATION OF
C     A FLOATING POINT NUMBER.  EXAMPLE, 1.0E-25 HAS AN INTERNAL FORM OF
C     24XXXXXXXXXXXXXXXX .  THEREFORE, WHEN SUBTRACTER FROM THE VALUE
C     OF U  , THE ALPHABETIC CHARACTER OF THE LETTER CAN BE DETERMINED.
C
      IF(U)10,11,11
   10 U=ABSF(U)
      TEST=U-1.0
      IF(TEST)12,12,13
   13 A(2)=0.0
      GO TO 14
   12 TEST=U-1.0E-25
      IF(TEST)15,15,16
C
C     FREQUENCY OF PUBLICATION IS WEEKLY.
   16 A(2)=4.0
      GO TO 14
C
C     FREQUENCY OF PUBLICATION IS MONTHLY OR QUARTERLY.
   15 A(2)=2.0
      GO TO 14
C
C     FREQUENCY OF PUBLICATION IS BIWEEKLY, IRREGULAR, OR BIMONTHLY.
   11 TEST=U-1.0E7
      IF(TEST)17,17,18
C
C     FREQUENCY OF PUBLICATION IS IRREGULAR.
   18 A(2)=5.0
      GO TO 14
   17 TEST = U-1.0
      IF(TEST)200,200,201
C
C     FREQUENCY OF PUBLICATION IS BIMONTHLY.
  200 A(2)=3.0
      GOTO14
C
C     FREQUENCY OF PUBLICATION IS BIWEEKLY.
  201  A(2)=1.0
   14 A(10)=Y
      A(9)=X
      A(11)=Z
      A(12)=V
```

```
C      NAME OF PERIODICAL TO A(9) THROUGH A(12)
C
C      A(3) THROUGH A(7) ARE... NUMBER OF COPIES ORDERED,  1 IF HOLDINGS
C      ONLY,  MONTH ORDERED,  1 IF VENDOR, AND 1 IF REFERENCE ROOM COPY
C      ONLY.
C
       NA(3)=N1
       NA(4)=N2
       NA(7)=N33
       NA(5)=N3
       NA(6)=N4
       IF(N4)21,22,21
C      NAME OF THE PUBLISHER
   22  READ INPUT TAPE NTIN,23,N5,N6,(A(J),J=18,28)
   23  FORMAT(I4,I1,11A6)
C      FIRST IS FULL NAME OF THE JOURNAL, FOLLOWED BY INFORMATION CARDS.
   21  READ INPUT TAPE NTIN,23,N7,N8,(A(J),J=29,39)
       READ INPUT TAPE NTIN,23,N7,N8,(A(J),J=40,50)
       READ INPUT TAPE NTIN,23,N7,N8,(A(J),J=51,61)
       READ INPUT TAPE NTIN,23,N7,N8,(A(J),J=62,72)
       READ INPUT TAPE NTIN,23,N7,N8,(A(J),J=73,83)
       READ INPUT TAPE NTIN,23,N7,N8,(A(J),J=84,94)
       IP=1
       DO 41 KZ=1,500
   41  N(KZ)=0
C      READ THE DISTRIBUTION CARDS   (MAXIMUM OF 31).
       DO 31 KZ=1,31
       READ INPUT TAPE NTIN,24,N5,N6,N7,N8,(NI(L),L=1,16)
   24  FORMAT(I4,I1,I2,I1,16I4)
   25  IF(K-N5)28,27,28
   28  PRINT 500, N5, K
  500  FORMAT(1H0, 32H ERROR.  DISTRIBUTION CARDS FOR I4, 20H ARE BEHIND
      1JOURNAL I4,/ 31H END PROGRAM.  SAVE ALL OUTPUT.)
       PAUSE 22022
   27  IF(N8)29,30,29
   29  NI(16)=MAXPER-1
   30  IPD=16*(IP-1)
       DO 32 NS=1,16
       IPA=IPD+NS
   32  N(IPA)=NI(NS)
       IP=IP+1
       IF(N6)31,31,26
   31  CONTINUE
C      WRITES THE JOURNAL NAME AND INFORMATION AND 31*16 WORDS OF
C      DISTRIBUTION LISTS ON TAPE 5.
   26  WRITE TAPE NOUT,(A(ML),ML=1,95),(N(MP),MP=1,500)
    6  CONTINUE
    8  DO 35 ML=1,500
   35  N(ML)=0
       DO 36 ML=1,50
   36  A(ML)=0.0
C      LAST RECORD IS ZERO TO SIGNAL END OF THIS GROUP.
       WRITE TAPE NOUT,(A(ML),ML=1,95),(N(MP),MP=1,500)
C      THE NAMES OF THE JOURNALS HAVE BEEN STORED IN THE  C  ARRAY AND
C       ARE WRITTEN IN BINARY ON TAPE 5 AS THE THIRD GROUP OF INFORMATION.
       WRITE         TAPE NOUT,(C(J),J=1,LIMM2)
       REWIND NOUT
       RETURN
       END(2,0,0,0,1)
```

```
C      03-29-65    SKELTON    PERSTP    8270    JOURNAL PROGRAM
       SUBROUTINE PERSTP
C
C      PURPOSE OF THIS ROUTINE IS TO INVERT THE DISTRIBUTION FOR EACH
C      JOURNAL AND  FORM THE LIST OF JOURNALS RECEIVED BY EACH PERSON.
C                       THE FINAL FORM ON TAPE 5 IS 53 WORDS,, 3 WORDS OF
C      ALPHABETIC NAMES OF THE PEOPLE, FOLLOWED BY  50 WORDS  CONTAINING
C      THE INDEX NUMBERS OF THE JOURNALS WHICH EACH PERSON RECEIVES.
C
       DIMENSION A(95),N(500),C(20800),NA(95),NI(16),IX(400),NC(20800)
      1,KPN(1000)
       COMMON C,BLANK,  N,A,NI,IX ,KPN
       COMMON MONTH,NAMNO,MAXPER,MAXJNL,NAMJNL,KIN,LIMM,LIMM2,KINN
       EQUIVALENCE (NC(1),C(1)),(BLANK,BLANK),(N(1),N(1)),(NA(1),A(1))
       NOUT2=4
     1  NOUT=5
       REWIND NOUT2
C      READS IN 13 GROUPS OF 400 EACH.
       DO 45 KM=1,13
       IB=(KM-1)*400+1
       IU=KM*400
       IF(IB-MAXPER)146,147,147
   146 REWIND NOUT
C      READS IN THE NAMES OF THE PEOPLE.
       READ TAPE NOUT,(C(J),J=1,KIN )
       DO 52 NB=1,400
    52 IX(NB)=1
       DO 56 NB=1,20000
    56 NC(NB)=0
       DO 42 KZ=1,LIMM
C      READS IN THE JOURNAL INFORMATION AND DISTRIBUTION CARDS.
       READ TAPE NOUT,(A(ML),ML=1,95),(N(MP),MP=1,500)
       IF(A(1))145,145,44
C      MAXIMUM OF 31 DISTRIBUTION CARDS.  CHECKS EACH DIST. CARD FOR
C      ZERO IN THE FIRST LOCATION.
    44 DO 46 KP=1,31
       KQ=(KP-1)*16+1
       IF(N(KQ))48,42,48
C      CHECKS EACH POSITION FOR ZERO.  STORES THE NON-ZERO IDENT NUMBERS
C      IN THE  NC  ARRAY.
    48 DO 47 KO=1,16
       KR=KQ+KO-1
       IF(N(KR))49,46,49
    49 IF(N(KR)-IB)47,51,51
    51 IF(N(KR)-IU)50,50,47
    50 IZ=N(KR)-400*(KM-1)
       IF(IZ-MAXPER)148, 47,148
   148 NLOC=(IZ-1)*50+IX(IZ)
       IX(IZ)=IX(IZ)+1
       NC(NLOC)=NA(1)
    47 CONTINUE
    46 CONTINUE
    42 CONTINUE
```

```
145 DO 53 KP=1,400
    NSUM=0
    IPC=(KP-1)*50
    DO 54 IP=1,50
    IP1=IPC+IP
    NSUM=NSUM+NC(IP1)
 54 NA(IP)=NC(IP1)
    IF(NSUM)55,53,55
 55 IKP=KP+(KM-1)*400
    WRITE TAPE NOUT2,IKP,(NA(IP),IP=1,50)
 53 CONTINUE
 45 CONTINUE
147 CONTINUE
    IKP=0
    WRITE TAPE NOUT2,IKP,(NA(IP),IP=1,50)
    REWIND NOUT
    READ TAPE NOUT,(C(J),J=1,KIN )
    DO63KM=1,LIMM
    READ TAPENOUT,(A(J),J=1,95),(N(I),I=1,500)
     IF(A(1))63,64,63
 63 CONTINUE
 64 CONTINUE
    READ TAPE NOUT,(XX  ,J=1,LIMM2)
    REWIND NOUT2
    DO 60 IJ=1,MAXPER
    READ TAPE NOUT2,IKP,(NA(IP),IP=1,50)
    IF(IKP)61,62,61
 61 DO 160 NZ=1,KINN
    IF(KPN(NZ))163,161,163
163 IF(KPN(NZ)-IKP) 160,162,160
160 CONTINUE
161 PRINT 1700  ,IKP
    NZ = 999
1700 FORMAT(1H1,61HPERSTP PEOPLE INDICES DO NOT AGREE.  PRESS START TO
   1CONTINUE./   23H LOOK FOR PEOPLE INDEX  I4//)
162 NX=(NZ-1)*3+1
    X=C(NX)
    Y=C(NX+1)
    Z=C(NX+2)
    WRITE TAPE NOUT,X,Y,Z,(NA(IP),IP=1,50)
 60 CONTINUE
 62 CONTINUE
    X=0.0
    WRITE TAPE NOUT,X,Y,Z,(NA(IP),IP=1,50)
    REWIND NOUT2
    REWIND NOUT
    RETURN
    END(2,0,0,0,1)
```

```
C      03-09-65   SKELTON   BLURB2   8270   JOURNAL PROGRAM
       SUBROUTINE BLURB2
C
C      PURPOSE      TO PROVIDE A LIST,TO EACH PERSON,  OF THE THE JOURNALS
C       WHICH HE RECEIVES AND TO ALLOW HIM TO MAKE CHANGES.
C
       DIMENSION A(95),N(500),C(20800),NA(95),NI(16),IX(400),NC(20800)
      1,KPN(1000)
       COMMON C,BLANK,  N,A,NI,IX ,KPN
       COMMON MONTH,NAMNO,MAXPER,MAXJNL,NAMJNL,KIN,LIMM,LIMM2,KINN
       EQUIVALENCE (NC(1),C(1)),(BLANK,BLANK),(N(1),N(1)),(NA(1),A(1))
 1000  NOUT=10
       NIN=5
       REWIND NIN
       READ TAPE NIN,(C(J),J=1,KIN )
     1 DO 2 K=1,LIMM
       READ TAPE NIN,(A(J),J=1,95),(N(I),I=1,500)
       IF(A(1))401,402,401
   401 CONTINUE
     2 CONTINUE
   402 READ TAPE NIN,(C(J),J=1,LIMM2)
       DO400IJ=1,MAXPER
       READ TAPE NIN,X,Y,Z,(N(IP),IP=1,50)
       IF(X)403,404,403
   403 WRITE OUTPUT TAPE NOUT,
      1103
       WRITE OUTPUT TAPE NOUT,100,X,Y,Z
       WRITE OUTPUT TAPE NOUT,102
       WRITE OUTPUT TAPE NOUT,101
       WRITE OUTPUT TAPE NOUT,106
       WRITE OUTPUT TAPE NOUT,107
       WRITE OUTPUT TAPE NOUT,108
       WRITE OUTPUT TAPE NOUT,102
       DO 8 KJ=1,50
       NX=(N(KJ)-1)*4+1
       IF(N(KJ))23,24,23
    24 GOTO410
    23 X=C(NX)
       Y=C(NX+1)
       Z=C(NX+2)
       V=C(NX+3)
   333 WRITE OUTPUT TAPE NOUT,
      1104,KJ,X,Y,Z,V
     8 CONTINUE
       GOTO411
   410 IF(KJ-20)411,412,412
   412 WRITE OUTPUT TAPE NOUT,109
   411 CONTINUE
   400 CONTINUE
   404 CONTINUE
       REWIND NIN
     3 RETURN
```

```
100 FORMAT(1H 4A6)
102 FORMAT(1H0)
103 FORMAT(1H1)
104 FORMAT(1H I2,2H  4A6)
105 FORMAT(1H0/)
101 FORMAT(55H THIS IS A LIST OF JOURNALS CIRCULATED TO YOU BY TIS.   )
106 FORMAT(55H IF YOU NO LONGER DESIRE TO READ A PARTICULAR JOURNAL,  )
107 FORMAT(55H OR IF YOU DESIRE TO ADD ONE OR MORE JOURNALS FROM THE )
108 FORMAT(55H ATTACHED LIST, PLEASE INDICATE AND RETURN TO TIS.      )
109 FORMAT(55H0DO YOU REALLY READ THIS MANY JOURNALS                  )
    END(2,0,0,0,0)
```

```
C      05-17-65      SUBLST      SKELTON  8270   JOURNAL PROGRAM
       SUBROUTINE SUBLST
C
C      PURPOSE    TO PROVIDE A LIST OF CIRCULATIONG JOURNALS AND A LIST
C      OF THOSE JOURNALS WHICH REMAIN IN THE REFERENCE ROOM.  THE REFEREN
C      CE ROOM JOURNALS ,  CAN BE CIRCULATED IF ENOUGH INTEREST IS SHOWN
C      TO WARRANT ORDERING ANOTHER COPY.
C
       DIMENSION A(95),N(500),C(20800),NA(95),NI(16),IX(400),NC(20800)
      1,KPN(1000)
       COMMON C,BLANK,  N,A,NI,IX ,KPN
       COMMON MONTH,NAMNO,MAXPER,MAXJNL,NAMJNL,KIN,LIMM,LIMM2,KINN
       EQUIVALENCE (NC(1),C(1)),(BLANK,BLANK),(N(1),N(1)),(NA(1),A(1))
       NIN=5
       NOUT=10
       DO 10 KL=1,10000
   10  NC(KL)=0
       REWIND NIN
       K=1
       I=5001
       READ TAPE NIN,(XX,J=1,KIN)
       DO 92 KZ=1,LIMM
       READ TAPE NIN,(A(ML),ML=1,95),(N(MP),MP=1,500)
       IF(A(1))145,145,94
   94  IF(NA(4))1,1,92
    1  IF(NA(7))2,2,3
    3  NC(I)=NA(1)
       I=I+1
       GO TO 92
    2  NC(K)=NA(1)
       K=K+1
   92  CONTINUE
  145  NIN2=4
       REWIND NIN2
       DO 200 LM=1,35
       KO=(LM-1)*144+1
       IF(NC(KO))402,202,402
  402  DO 203 KX=1,144
       KY=KO+KX-1
  203  N(KX)=NC(KY)
       WRITE TAPE NIN2,(N(KZ),KZ=1,144)
       DO 301 K=1,144
  301  N(K) = 0
  200  CONTINUE
  202  N(1)=0
       WRITE TAPE NIN2,(N(KZ),KZ=1,144)
  403  DO 204 LM=1,35
       KO=(LM-1)*144+5001
       IF(NC(KO))205,206,205
  205  DO 207 KX=1,144
       KY=KO+KX-1
  207  N(KX)=NC(KY)
       WRITE TAPE NIN2,(N(KZ),KZ=1,144)
       DO 302 K=1,144
  302  N(K) = 0
  204  CONTINUE
```

```
206 N(1)=0
    WRITE TAPE NIN2,(N(KZ),KZ=1,144)
    REWIND NIN2
    READ TAPE NIN,(C(J),J=1,LIMM2)
    REWIND NIN
    DO 20 MN=1,35
    READ TAPE NIN2,(N(KZ),KZ=1,144)
    IF(N(1))210,13,210
210 WRITE OUTPUT TAPE NOUT,100
    WRITE OUTPUT TAPE NOUT,102
    DO 11 KJ=1,72
    KN=KJ+72
    NX=N (KJ)
    IF(NX)12,13,12
 12 NX=4*(NX-1)
    X=C(NX+1)
    Y=C(NX+2)
    Z=C(NX+3)
    V=C(NX+4)
    NY=N (KN)
    IF(NY)14,15,14
 14 NY=4*(NY-1)
    UX=C(NY+1)
    UY=C(NY+2)
    UZ=C(NY+3)
    UV=C(NY+4)
    GO TO 16
 15 UX=BLANK
    UY=UX
    UZ=UX
    UV=UX
 16 WRITE OUTPUT TAPE NOUT,106,X,Y,Z,V,UX,UY,UZ,UV
 11 CONTINUE
 20 CONTINUE
 13 CONTINUE
    DO 21 MN=1,35
    READ TAPE NIN2,(N(KZ),KZ=1,144)
    IF(N(1))211,43,211
211 WRITE OUTPUT TAPE NOUT,103
    WRITE OUTPUT TAPE NOUT,104
    WRITE OUTPUT TAPE NOUT,105
    WRITE OUTPUT TAPE NOUT,102
    DO 22 KJ=1,72
    KN=KJ+72
    NX=N (KJ)
    IF(NX)42,43,42
 42 NX=4*(NX-1)
    X=C(NX+1)
    Y=C(NX+2)
    Z=C(NX+3)
    V=C(NX+4)
    NY=N (KN)
    IF(NY)44,45,44
```

```
 44 NY=4*(NY-1)
    UX=C(NY+1)
    UY=C(NY+2)
    UZ=C(NY+3)
    UV=C(NY+4)
    GO TO 46
 45 UX=BLANK
    UY=UX
    UZ=UX
    UV=UX
 46 WRITE OUTPUT TAPE NOUT,106,X,Y,Z,V,UX,UY,UZ,UV
 22 CONTINUE
 21 CONTINUE
 43 CONTINUE
    REWIND NIN2
    RETURN
100 FORMAT(55H1 THE FOLLOWING JOURNALS ARE CIRCULATED AT PRESENT      )
102 FORMAT( 1HO/)
103 FORMAT(55H1 THE FOLLOWING JOURNALS ARE LIBRARY COPIES ONLY.       )
104 FORMAT(55H  IF SUFFICIENT INTEREST IS SHOWN IN A PARTICULAR       )
105 FORMAT(55H  JOURNAL, A CIRCULATION COPY WILL BE ORDERED.          )
106 FORMAT( 1H 4A6,12H             4A6)
    END(2,0,0,0,0)
```

```
C      05-18-65    SKELTON   PRLIST   8270   JOURNAL PROGRAM
       SUBROUTINE PRLIST
       DIMENSION A(95),N(500),C(20800),NA(95),NI(16),IX(400),NC(20800)
      1,KPN(1000)
       COMMON C,BLANK,  N,A,NI,IX ,KPN
       COMMON MONTH,NAMNO,MAXPER,MAXJNL,NAMJNL,KIN,LIMM,LIMM2,KINN
       EQUIVALENCE (NC(1),C(1)),(BLANK,BLANK),(N(1),N(1)),(NA(1),A(1))
C      CIRCULATION TAPE IS COMPOSED AS FOLLOWS
C      RECORD 1  3000 WORDS IN SETS OF 3 WORDS ALPHA INFO FOR UP TO
C                1000 NAMES PLUS LOCATION ON CIRCULATION LIST
C      THEN FOLLOWS UP TO 750  RECORDS OF LENGTH 595 WORDS.  95 WORDS
C                ARE ALPHA INFO ABOUT JOURNAL DATA.  500 WORDS ARE FOR
C                THE MAXIMUM OF 500 PEOPLE THE JOURNAL IS SENT TO
C        THEN    3000 WORDS IN SETS OF 3 WORDS ALPHA INFO FOR UP TO
C                 750 DIFFERENT JOURNAL NAMES
C      THEN FOLLOWS UP TO 1000 RECORDS OF LENGTH 53 WORDS.  WORDS 1-3 ARE
C                NAME  FOR THE PERSON AND WORDS 4 THRU 53 ARE INDICES
C                OF THE MAXIMUM OF FIFTY JOURNALS HE MAY RECEIVE
C      THIS TAPE IS LOCATED ON TAPE DRIVE 5
C      ENTRY AT INSTRUCTION 1 PREPARES LISTS OF DISTRIBUTION OF JOURNALS
C         AND OF JOURNALS RECEIVED BY EACH PERSON
 1000  NOUT=10
       NIN=5
       REWIND NIN
       READ TAPE NIN,(C(J),J=1,KIN )
       NCT=1
       WRITE OUTPUT TAPE NOUT,
      1103
C      READS IN THE JOURNAL INFORMATION AND DISTRIBUTION CARDS.
    1  DO 2 K=1,LIMM
       READ TAPE NIN,(A(J),J=1,95),(N(I),I=1,500)
       IF(N(1)-MAXPER)40,41,40
   41  L=2
       GO TO 42
   40  L=1
   42  IF(A(1))2,3,4
    4  DO 18 IJ=L,51
C      A(1) IS ZERO FOR LAST RECORD OF JOURNAL DISTRIBUTION
C      A(2) IS 0.0 FOR WEEKLY, 1.0 FOR BIWEEKLY, 2.0 FOR MONTHLY,3.0 FOR
C      BIMONTHLY, 4.0 FOR QUARTERLY, AND 5.0 FOR IRREGULAR
       IL=16*(IJ-1)+1
       IF(N(IL)-999) 400,  18,  400
  400  IF(N(IL)-9999)401,18,401
  401  IF(N(IL))9, 2,9
C      DISTRIBUTION LISTS HAVE UP TO 30 SETS OF 16 NAME INDICES EACH.
```

```
C      WHEN FIRST INDEX IN A SET IS ZERO, NO MORE SETS ARE WORKED ON
     9 IF(A(2)-1.0)7,6,5
     7 LEJ=5
       GO TO 22
     6 LEJ=2
       GO TO 22
     5 LEJ=1
    22 DO 28 KN=1,LEJ
       WRITE OUTPUT TAPE NOUT,
      1100,A(9),A(10),A(11),A(12)
       IA=A(2)
       IA=IA+1
       GO TO (30,31,32,135,33,34),IA
    30 CONTINUE
C                      WEEKLY
       WRITE OUTPUT TAPE NOUT,
      1106,IJ
       GOTO35
    31 CONTINUE
C                      BIWEEKLY
       WRITE OUTPUT TAPE NOUT,
      1206,IJ
       GOTO35
    32 CONTINUE
C                      MONTHLY
       WRITE OUTPUT TAPE NOUT,
      1108,IJ
       GOTO35
C                      BIMONTHLY
   135 WRITE OUTPUT TAPE NOUT,
      1107,IJ
       GOTO35
    33 CONTINUE
C                      QUARTERLY
       WRITE OUTPUT TAPE NOUT,
      1109,IJ
       GOTO35
    34 CONTINUE
C                      IRREGULAR
       WRITE OUTPUT TAPE NOUT,
      1110,IJ
    35 CONTINUE
       WRITE OUTPUT TAPE NOUT,
      1101
       WRITE OUTPUT TAPE NOUT,
      1102
C      WILL WRITE 16 TIMES  THE NAMES OF PEOPLE IF AVAILABLE , BLANKS IF
C      NOT.
       DO 8 KJ=1,16
       KY=IL+KJ-1
       NJS=N(KY)
       DO 224 NZ=1,KINN
       IF(NJS-KPN(NZ))224,225,224
   224 CONTINUE
       PRINT 2000, NJS , NA(1)
```

```
2000 FORMAT(1HO, 26H ERROR FOR PAYROLL NUMBER ,I4,16H JOURNAL NUMBER I4
    1)
 225 NX=(NZ-1)*3+1
     IF(N(KY))23,24,23
  24 X=BLANK
     Y=X
     Z=X
      GOTO333
  23 X=C(NX)
     Y=C(NX+1)
     Z=C(NX+2)
 333 WRITE OUTPUT TAPE NOUT,
    1104,KJ,X,Y,Z
   8 CONTINUE
     IF(NJS-MAXJNL+1)1001,1002,1001
1001 WRITE OUTPUTTAPE NOUT,111
1002 WRITE OUTPUT TAPE NOUT,
    1105
     IF(NCT-3)20,21,20
  20 NCT=NCT+1
     GO TO 28
  21 NCT=1
     WRITE OUTPUT TAPE NOUT,
    1103
  28 CONTINUE
  18 CONTINUE
   2 CONTINUE
   3 RETURN
 100 FORMAT(1H 4A6)
 101 FORMAT(25HO PLEASE READ PROMPTLY    )
 102 FORMAT(1HO)
 103 FORMAT(1H1)
 104 FORMAT(1H I2,2H  3A6)
 105 FORMAT(1HO/)
 106 FORMAT(20HO  WEEKLY       COPY I2)
 107 FORMAT(20HO  BIMONTHLY    COPY I2)
 206 FORMAT(20HO  BIWEEKLY     COPY I2)
 108 FORMAT(20HO  MONTHLY      COPY I2)
 109 FORMAT(20HO  QUARTERLY    COPY I2)
 110 FORMAT(20HO  IRREGULAR    COPY I2)
 111 FORMAT(25H 17  TIS            773A  )
 112 FORMAT(1HO////////////////)
     END(2,0,0,0,1)
```

```
C         11-12-64  8270  SKELTON    SBORDR    JOURNAL DISTRIBUTION PROGRAM
      SUBROUTINE SBORDR

C     PURPOSE    TO PROVIDE A LIST OF THOSE JOURNALS WHICH MUST BE
C     RE-ORDERED  TWO MONTHS HENCE.
      DIMENSION A(95),N(500),C(20800),NA(95),NI(16),IX(400),NC(20800)
     1,KPN(1000)
      COMMON C,BLANK,  N,A,NI,IX ,KPN
      COMMON MONTH,NAMNO,MAXPER,MAXJNL,NAMJNL,KIN,LIMM,LIMM2,KINN
      EQUIVALENCE (NC(1),C(1)),(BLANK,BLANK),(N(1),N(1)),(NA(1),A(1))
      NIN=5
      NOUT=10
      IV=1
      MM=MONTH+2
      IF(MM-12)150,150,151
  151 MM=MM-12
  150 IZ=1
      REWIND NIN
      READ TAPE NIN,(C(J),J=1,KIN)
      DO 10 KL=1,5000
   10 NC(KL)=0
      DO 42 KZ=1,LIMM
      READ TAPE NIN,(A(ML),ML=1,95),(N(MP),MP=1,500)
      IF(A(1))145,145,44
   44 IF(NA(5)-MM)42,152,42
  152 IF(NA(6))154,153,154
  154 NC(IZ)=NA(1)
      IZ=IZ+1
      GO TO 42
  153 IF(IV-1)1153,1154,1153
 1154 WRITE OUTPUT TAPE NOUT,103,MM
 1153 WRITE OUTPUT TAPE NOUT,100,(A(J),J=29,39)
      WRITE OUTPUT TAPE NOUT,101,(A(J),J=13,17)
      WRITE OUTPUT TAPE NOUT,101,(A(J),J=18,22)
      WRITE OUTPUT TAPE NOUT,101,(A(J),J=23,28)
      IF(IV-14)160,161,160
  160 IV=IV+1
      GO TO 42
  161 IV=1
   42 CONTINUE
  145 NIN2=4
      REWIND NIN2
      DO 200 LM=1,35
      KO=(LM-1)*144+1
      IF(NC(KO))402,403,402
  402 DO 203 KX=1,144
      KY=KO+KX-1
  203 N(KX)=NC(KY)
      WRITE TAPE NIN2,(N(KZ),KZ=1,144)
  200 CONTINUE
  403 N(1)=0
      WRITE TAPE NIN2,(N(KZ),KZ=1,144)
      REWIND NIN2
      READ TAPE NIN,(C(J),J=1,LIMM2)
      REWIND NIN
      DO 20 MN=1,35
      READ TAPE NIN2,(N(KZ),KZ=1,144)
      IF(N(1))210,13,210
```

```
210 WRITE OUTPUT TAPE NOUT,103 ,MM
    WRITE OUTPUT TAPE NOUT,104
    WRITE OUTPUT TAPE NOUT,104
    DO 11 KJ=1,72
    KN=KJ+72
    NX=N (KJ)
    IF(NX)12,13,12
 12 NX=4*(NX-1)
    X=C(NX+1)
    Y=C(NX+2)
    Z=C(NX+3)
    V=C(NX+4)
    NY=N (KN)
    IF(NY)14,15,14
 14 NY=4*(NY-1)
    UX=C(NY+1)
    UY=C(NY+2)
    UZ=C(NY+3)
    UV=C(NY+4)
    GO TO 16
 15 UX=BLANK
    UY=UX
    UZ=UX
    UV=UX
 16 WRITE OUTPUT TAPE NOUT,106,X,Y,Z,V,UX,UY,UZ,UV
 11 CONTINUE
 20 CONTINUE
 13 CONTINUE
    REWIND NIN2
    RETURN
100 FORMAT(1HO11A6)
101 FORMAT(1H 11A6)
103 FORMAT(39H1  ORDER THE FOLLOWING JOURNALS BY THE I2,20HTH MONTH OF
   1 THE YEAR)
104 FORMAT(1HO)
106 FORMAT( 1H 4A6,12H             4A6)
    END(2,0,0,0,0)
```

```
C      10-30-64    SKELTON    BLURB1    8270    JOURNAL PROGRAM
       SUBROUTINE BLURB1
C
C      PURPOSE IS TO GIVE A LIST OF HOLDINGS IN THE LIBRARY.   DEFINITION
C      HOLDINGS---  THOSE JOURNALS OF WHICH ONE COPY IS HELD ON PERMANENT
C      FILE.
C
       DIMENSION A(95),N(500),C(20800),NA(95),NI(16),IX(400),NC(20800)
      1,KPN(1000)
       COMMON C,BLANK,  N,A,NI,IX ,KPN
       COMMON MONTH,NAMNO,MAXPER,MAXJNL,NAMJNL,KIN,LIMM,LIMM2,KINN
       EQUIVALENCE (NC(1),C(1)),(BLANK,BLANK),(N(1),N(1)),(NA(1),A(1))
       NCT=0
       NOUT=10
       NIN=5
       REWIND NIN
       WRITE OUTPUT TAPE NOUT,3
       READ TAPE NIN,(C(J),J=1,KIN )
       WRITE OUTPUT TAPE NOUT,100
       WRITE OUTPUT TAPE NOUT,101
       DO 1 I=1,LIMM
       READ TAPE NIN,(A(J),J=1,95)
       IF(A(1))11,12,11
   11  DO 5 JK=1,6
       TEST=0.0
       DO 2 K=1,11
       NK=(JK-1)*11+K+28
S      CLA A(NK)
S      SUB BLANK
S      STO XX
       IF(XX)4,8,4
    4  TEST=1.0
    8  C(K)=A(NK)
    2  CONTINUE
       IF(TEST)7,5,7
    7  WRITE OUTPUT TAPE NOUT,10,(C(J),J=1,11)
   10  FORMAT(1H 11A6)
       NCT=NCT+1
    5  CONTINUE
       WRITE OUTPUT TAPE NOUT,101
       IF(NCT-73)1,18,18
   18  WRITE OUTPUT TAPE NOUT,3
       NCT=0
    1  CONTINUE
    3  FORMAT(1H1)
  100  FORMAT(67H THIS IS A LIST OF JOURNAL HOLDINGS IN TIS LIBRARY
     1           )
  101  FORMAT(1HO)
   12  REWIND NIN
       RETURN
       END(2,0,0,0,0)
```