

Abstract

The Exchange List Program creates the library gift and exchange mailing list, allows it to be edited, and records user status, categories listing, list and date of categories last sent, date entry was last edited, and date of last acknowledgement together with the year to which the acknowledgement refers. Users are automatically current when added to the list but may be suspended, reinstated or deleted. A search facility is available to display a particular entry. Sorting by status and category is available for printout or creation of the mailing labels file. The program is run interactively through menus (two levels).

INTRODUCTION

The program is written in Fortran 77 and runs interactively under a .CSS on the Department of Mines Perkin-Elmer 8/32 computer. The program was written in response to a request from the Department of Mines library.

RUNNING THE PROGRAM

Program execution is commenced by typing EXCHLST which calls the .CSS of that name. This results in the main menu (EXCHANGE FILE MENU) appearing on the screen (fig. 1). The choice is selected by typing the appropriate letter; it is not necessary to hit RETURN. P brings up the PRINT OPTIONS menu and E brings up the CHANGE ENTRY menu. X ends the program run and A is pressed to add new entries to the file. Exiting from the PRINT or CHANGE menus or completion of additions returns the user to the main menu.

Adding entries to file

After A is selected from the main menu the screen response is;

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'ENTER NUMBER OF ADDITIONS          [RETURN]'
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Enter a number followed by RETURN. The number will usually be the number you wish to put in at one go but may be smaller or larger without causing you undue inconvenience. The program will continue to prompt for data until the specified number of entries have been typed in, whereupon it will return you to the main menu. Should you wish to continue adding entries it is a simple matter to type A followed by the additional number of entries required. Should you, however, wish to terminate adding entries before reaching the number specified, you should when prompted for the seventh line type Q instead of X after entering the categories. The program will return you to the main menu, but not before the normal procedure for adding the current entry is complete.

When adding entries the screen prompt for the first six lines is;

'ENTER *** LINE OF NAME/ADDRESS' where *** on the screen will be 1st or 2nd line etc. up to 6th line as appropriate.

You must enter no more than 36 characters followed by RETURN. A blank line is entered simply by pressing RETURN. The prompt for the seventh line is;

'ENTER CATEGORIES ABEGM. TYPE X WHEN FINISHED
.....OR Q TO MAKE THIS LAST ENTRY.....'

Type any or all of A,B,E,G,M as required followed by X or Q. The six lines of the completed entry will then be displayed followed by the categories entered and the message;

'IS THIS CORRECT ?.....N or Y'

If the answer is Y then you will be prompted for the first line of the next entry. If the answer is N then the screen prompt will be;

'***** RE-ENTER NAME AND ADDRESS *****'

Each line of the current entry will then be displayed in turn together with the prompt;

'ALTER THIS *** LINE? N/Y' where *** is 1st or 2nd line or etc.

If the answer is N then the next line is displayed. If the answer is Y then the prompt is;

'TYPE AMENDED LINE IN FULL...36 CHARS MAX...[RETURN]'

and this line should then be retyped, after which the next line is displayed. After the six name/address lines have been displayed for editing the prompt is;

'DO YOU WISH TO ALTER CATEGORIES?.....N/Y'

A Y response results in the prompt;

'ENTER CATEGORIES ABEGM. TYPE X WHEN FINISHED.'

The categories should be re-typed followed by X. After editing of the entry is complete it is redisplayed as before with the prompt;

'IS THIS CORRECT ?.....N or Y'

and editing may continue in such fashion until you are satisfied.

When a new entry is added to the file it is automatically assigned a status of C for current. The seventh line of the entry will hold the status, together with the categories assigned to that entry and the date it was added to the file. Subsequent utilisation of some of the other program options will alter or add to the information of line seven.

Change entry menu

The CHANGE ENTRY MENU (fig. 2) is displayed by selecting E on the main (EXCHANGE FILE MENU) menu. Typing X will return you

to the main menu. Selecting any other option will involve a search for the required entry, and the (target) prompt is;

'ENTER TEXT TO SEARCH FOR.....36 CHARACTERS MAX...
....TERMINATE BY\ '

and you should enter a segment of the entry required exactly as it was typed in. For example, if the entry required is;

MAP AND AIR PHOTO LIBRARY
BURNSIDE HALL
MCGILL UNIVERSITY
805 SHERBROOKE W.
MONTREAL, QUEBEC, H3A 2K6

then this entry would be located by using any of the following text targets;

805 SHER\
EAL, QUE\
H3A\
H3A 2K6\
MCGILL\
MCGILL UNIVERSITY\
MONTREAL\
MONT\
QUEBEC\
MONTREAL, \

for example. The following targets would not locate this entry;

805 SHER\
H3A2K6\
H3A 2K6\
EAL,QUE\
QUEBEC \

because in each case the number of spaces is incorrect. Failure to type the backslash to terminate the target will result in the message;

'NO BACKSLASH.....TRY AGAIN.'

followed by the target prompt. The safest way to specify the target is to avoid more than one word unless you are sure of the spacing and to avoid words which may be mis-spelled. If you specify a target which occurs in more than one entry then the first entry found with that target will be displayed followed by the message;

'IS THIS THE ENTRY REQUIRED? N/Y?

If the answer is N then the program will search for and display the next entry containing that target. If the target is not found or if all those entries in which the target is found are rejected by you then the following message will appear;

'REQUIRED TARGET (OR ENTRY) NOT FOUND
TRY ANOTHER TARGET? N/Y'

If the answer is Y then the target prompt will appear on the screen. If the answer is N then you will be returned to the menu from which you initiated the search (in most cases this will be the CHANGE ENTRY MENU).

If the required entry is found and you answer to that effect then the action taken will depend on the selection made previously from the menu. If L was selected from either PRINT or CHANGE menu then you will be returned to the menu of origin immediately upon answering Y to confirm the entry as the required one. Therefore do not answer Y until you have completed your inspection of the entry. If S or C was selected from the CHANGE menu then answering Y will automatically make the appropriate change to the status of the entry and you will be returned to the CHANGE menu: S will change the status to suspended, C will reinstate a suspended entry to current. Suspended and current entries may both be accessed and edited but may be separated for printing or mailing label purposes (only current entries would normally be selected for mailing labels). If D was selected then the entry will be deleted from the file. If K was selected then the following prompt appears;

'ENTER YEAR TO WHICH ACKNOWLEDGEMENT REFERS
ENTER AS..... YY [RETURN]
THAT IS, 1985 ENTERED AS... 85 [RETURN], NOT 1985 [RETURN]'

Enter the year as described. For example, if the year is 1984 then enter 84 followed by RETURN. The screen will reply with;

'1984 ...IS THIS CORRECT? N/Y'

In this case it is correct so we would reply Y but if we replied N we would be prompted to enter the year again. The year to which the acknowledgement refers is the year in which the package acknowledged was sent. The next prompt is;

'ENTER DATE OF ACKNOWLEDGEMENT AS DDMMYY
E.G. 4TH.MAY 1984 ENTERED AS 040584'

This date is the date of writing or sending of the acknowledgement. For example if the received acknowledgement was date 23 March 1985 we would type 230385 followed by RETURN. The screen response would be;

'ACKNOWLEDGEMENT DATE IS 23/ 3/1985
IS THIS CORRECT? (N/Y)?

In our case we would answer Y and the seventh line of the entry would be altered accordingly (fig. 3) and we would be returned to the CHANGE menu. If we answered N we would be prompted to re-enter the date.

If E was selected the required entry may be edited. The editing procedure is exactly the same as editing an incorrectly typed entry being added to the file. Each of the six lines of the name and address is displayed in turn and the user elects to alter the line or not. A line to be altered is retyped in full. After the first six lines have been altered (or not, as the case may be) the user may alter the categories. No other part of the seventh line may be altered (the status is altered using specific options from the CHANGE menu) but the date of the entry is automatically altered to the current

date on alteration of the name/address or categories but not on alteration of any other part of the entry.

The print menu

Selection of P from the main menu will display the PRINT menu (fig. 4). Selecting L from the PRINT menu has exactly the same effect as selecting L from the CHANGE ENTRY MENU except that the user will be returned to the PRINT menu on completion. The only other operations which may be initiated from this menu are printing out entries on the line printer, preparation of the mailing list file in a form suitable for input to the sticky labels program, or exit (X) to the main menu. All other choices on the menu control what is to be printed by the lineprinter or on the sticky labels.

Status selection is made by choosing C (for current entries), S (for suspended entries), or T (for both suspended and current entries). The status selected appears at the lower left hand corner of the menu. If it is desired to alter the status selected it is merely sufficient to select the new choice and the status displayed will be overwritten.

Categories are specified from A,B,E,G,M and are displayed on the same line as the status but a few spaces to the right. Specification of a category means selection of an entry having that category regardless of what other categories it also has. For example, if A were specified and an entry had categories ABE-M then it would be selected. However, if ABE-M were specified then that entry would be selected only once, not four times. If Q is specified it will appear immediately to the right of the status. Selection of Q means that an entry is selected only if its categories exactly match those selected at the print menu. To select our previous example having categories ABE-M we would need to specify ABE-M (having selected Q) from the menu. If a change of mind or an error occurs during specification of categories then type Z which will clear all the categories plus Q. The status is not cleared because some status choice must be made and may be altered by overwriting.

Certain special choices may be made. If T only is specified then all entries in the file are selected regardless of type. TQ only will cause selection of all entries having status C or S regardless of categories and the total number of entries selected will be printed at the end of the output. CQ and SQ work similarly to TQ but are restricted to entries having status C or S respectively. C or S alone are not recognised options and the line to the right of the status will be filled with hyphens (which may be cleared by typing Z).

Pressing P will cause selection of those entries satisfying the specified options. The entries will be printed out three across the lineprinter page. After the last entries have been printed the number of entries of each category will be printed, unless Q has been selected in which case the number of entries having categories and status identical to those specified will be printed. Where Q is not specified, the sum of the tally of the categories will usually be larger than the number of entries selected because it is usual for some entries to have more than one of the categories specified.

When W is pressed, the lineprinter output is the same as it would have been had P been pressed but additionally a file is opened and the selected entries are written to it in the form in which they will appear on the mailing labels. The first six lines are exactly as per the file entry but the seventh line is a row of hyphens except for the far right hand end where the categories to be sent are printed. The categories to be sent will be the intersection of the set of the categories associated with the entry and the set of categories available for mailing. For example, if the entries associated with the entry are AB-GM and available for mailing are A-EGM then the seventh line of the mailing label of the entry will be;

-----A--GM-

denoting that the entry should receive publications in the A,G and M categories. Furthermore, the seventh line of the entry on file will be altered to record the categories sent to the entry and the month and year of sending (fig. 3).

The mailing file is called LABLZZZZ.DAT and may include more than one pass through the PRINT menu. The sticky labels should be actually printed using the sticky labels program run through the LIBLAB.CSS. Type LIBLAB and follow the instructions. Any queries about printing the sticky labels should be addressed to R.G. Richardson, the author of the sticky labels program (STIKLBL1.FTN).

[24 April 1985]

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                EXCHANGE FILE MENU
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ADD TO FILE           A
PRINT FILE           P
EDIT ENTRY           E
EXIT                 X

HIT KEY OF CHOICE .....A,P,E,X

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Figure 1. *Main file menu*

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                CHANGE ENTRY MENU
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ACKNOWLEDGEMENT     K
SUSPENSION          S
REINSTATE           C
DELETION            D
EDIT ENTRY          E
LOOK AT ENTRY       L
EXIT                X

HIT KEY OF CHOICE.....K,S,C,D,E,L,X

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Figure 2. *Change entry menu*

4	YEAR	}	Date entry added or date of last change to name, address, status or categories (whichever is more recent)
8	YEAR		
3	MONTH		
	MONTH		
6	DAY	}	Year of sending to which last acknowledgement refers
1	DAY		
4	YEAR	}	Date of last acknowledgement
8	YEAR		
4	YEAR		
8	YEAR		
1	MONTH	}	Month and year categories last sent
1	MONTH		
7	DAY	}	Categories last sent to entry
1	DAY		
4	YEAR	}	Categories associated with entry
8	YEAR		
5	MONTH		
	MONTH		
-	SPARE	}	
M	M		
-	G		
-	E		
-	B	}	
A	A		
-	SPARE		
-	SPARE		
-	SPARE	}	
M	M		
-	G		
E	E		
-	B	}	
A	A		
-	SPARE		
-	SPARE		
C	STATUS		
*	DENOTES SEVENTH LINE		

Figure 3. Example of seventh line of file entry

PRINT OPTIONS			
CURRENT LIST	C	ANNUAL REPORTS	A
SUSPENDED LIST	S	BULLETINS	B
TOTAL LIST	T	EXPLANATORY NOTES	E
LOOK AT ENTRY	L	GEOLOGICAL PAPERS	G
		MAPS	M
SELECTIVE	Q	CLEAR CATEGORY	Z
COMMENCE PRINT			
		MAILING LABELS	W
		FILE TO PRINTER	P
		EXIT	X

Figure 4. *Print Options*

APPENDIX 1

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C * * * * *
C PROGRAM TO ALLOW UPDATING OF LIBRARY EXCHANGE MAILING LIST
C * * * * *
  INTEGER*2 CR
  INTEGER*4 PBLK(6), NBYTES, NRECORD(500), DAT(3), KDATE(3), TALLY(8)
  1, TALLYQ
  CHARACTER*1 OPT, ANS, CAT(9), STAT, IDL7, CH
  CHARACTER*2 DAT3(12), DAT1(10), DMON, DYR
  CHARACTER*3 NUM(6)
  CHARACTER*5 CATS
  CHARACTER*7 CATEG
  CHARACTER*36 ALINE, CLINE(3, 7), TARG
  LOGICAL TERM, LABEL, FOUND
C*****
C*****      INITIALIZE VARIABLES
C*****
  DATA NUM / '1ST', '2ND', '3RD', '4TH', '5TH', '6TH' /
  DATA CAT / ' ', ' ', ' ', ' ', ' ', ' ', ' ', ' ', ' ', ' ' /
  DATA DAT3 / '1', '2', '3', '4', '5', '6', '7', '8',
  1' 9', '10', '11', '12' /
  DATA TALLY / '0', '0', '0', '0', '0', '0', '0', '0' /
  DATA DAT1 / '84', '85', '86', '87', '88', '89', '90', '91', '92', '93' /
  LABEL=. FALSE.
  FOUND=. FALSE.
  CALL ISBYTE(13, CR, 0)
  CALL DATE(DAT)
  DMON=DAT3(DAT(3))
  DYR=DAT1(DAT(1)-83)
C*****
C***** DISPLAY MAIN MENU... BRANCH TO OPTION CHOSEN
C*****
  29 WRITE(5, 30)
  30 FORMAT(10(/, 1X), 20X, 'EXCHANGE FILE MENU', /, 17X, 26(' '),
  1' /, /, /, 21X, 'ADD TO FILE', 14X, 'A', /, /, 21X, 'PRINT FILE',
  2' 'P', /, /, 21X, 'EDIT ENTRY', 14X, 'E',
  3' /, /, 21X, 'EXIT', 20X, 'X', /, /, /, 1X, 'HIT KEY OF CHOICE.....',
  4' A, P, E, X')
  45 CALL SYSIO(PBLK, Y'49', 5, OPT, 1, 0)
  IF(OPT.EQ.'A') GO TO 100
  IF(OPT.EQ.'P') GO TO 200
  IF(OPT.EQ.'E') GO TO 400
  IF(OPT.EQ.'X') GO TO 900
  WRITE(5, 50)
  50 FORMAT(/, 1X, 'YOU MUST ANSWER A OR P OR E OR X', /, 1X,
  1' HIT KEY OF YOUR CHOICE..... A, P, E OR X', /, 1X)
  GO TO 45
C*****
C***** ADD FURTHER ENTRIES TO FILE. STATUS OF ENTRY IS
C***** AUTOMATICALLY ASSIGNED AS CURRENT. SIX LINES OF 36 CHARACTERS
C***** ARE AVAILABLE FOR NAME/ADDRESS. CATEGORIES THEN REQUESTED AND
C***** HELD ON SEVENTH LINE WITH DATE OF ADDITION. LOOP ROUND ENTRY
C***** PROMPTS UNTIL NUMBER OF ENTRIES SPECIFIED REACHED OR ENTRIES
C***** LOOP TERMINATED BY Q INSTEAD OF X AFTER CATEGORIES TYPED.
C***** ENTRY NAME/ADDRESS AND CATEGORIES DISPLAYED FOR CHECKING
C***** AFTER INPUT AND MAY BE IMMEDIATELY EDITED BEFORE NEXT ENTRY.
C*****
  100 READ(3, 910, REC=1) NREC
  IREC=NREC
  WRITE(5, 109)

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109 FORMAT(////////,1X)
WRITE(5,110)
110 FORMAT(1X,'ENTER NUMBER OF ADDITIONS [RETURN]')
READ(5,*) ADDN
IADDN=NINT(ADDN)
DO 190 K=1,IADDN
DO 130 J=1,6
WRITE(5,113) NUM(J)
113 FORMAT(/,1X,'ENTER ',A3,' LINE OF NAME/ADDRESS',5X,')
READ (5,911) ALINE
WRITE(3,911,REC=IREC+J) ALINE
130 CONTINUE
CAT(1)='C'
DO 135 J=2,9
CAT(J)='- '
135 CONTINUE
WRITE(5,137)
137 FORMAT(/,1X,'ENTER CATEGORIES ABEGM. TYPE X WHEN FINISHED',
1/,1X,'.....OR Q TO MAKE THIS LAST ENTRY....')
138 CALL SYSIO(PBLK,Y'49',5,ANS,1,0)
IF(ANS.EQ.'A') CAT(4)='A'
IF(ANS.EQ.'B') CAT(5)='B'
IF(ANS.EQ.'E') CAT(6)='E'
IF(ANS.EQ.'G') CAT(7)='G'
IF(ANS.EQ.'M') CAT(8)='M'
IF(ANS.NE.'X'.AND.ANS.NE.'Q') GO TO 138
IF(ANS.EQ.'Q') TERM=.TRUE.
WRITE(3,140,REC=IREC+7) CAT,DAT(2),DAT(3),DAT(1)
140 FORMAT('* ',9A1,20X,3I2)
144 WRITE(5,145)
145 FORMAT(////////,1X)
DO 150 J=1,6
READ(3,911,REC=IREC+J) ALINE
WRITE(5,912) ALINE
150 CONTINUE
READ(3,154,REC=IREC+7) CAT
154 FORMAT(1X,9A1)
WRITE(5,155) CAT
155 FORMAT(1X,'CATEGORIES ',9A1)
157 WRITE(5,158)
158 FORMAT(///,1X,'IS THIS CORRECT ?.....N OR Y')
CALL SYSIO(PBLK,Y'49',5,ANS,1,0)
IF(ANS.EQ.'N') THEN
WRITE(5,170)
170 FORMAT(/,1X,'***** RE-ENTER NAME AND ADDRESS *****')
CALL EDIT(IREC,NUM,DAT)
GO TO 144
ELSE
IF(ANS.NE.'Y') THEN
WRITE(5,172)
172 FORMAT(/,1X,'** YOU MUST ANSWER N OR Y')
GO TO 157
ENDIF
ENDIF
IREC=IREC+7
IF(TERM) THEN
TERM=.FALSE.
GO TO 193
ENDIF
190 CONTINUE

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193 WRITE(3,910,REC=1) IREC
    DO 198 J=1,9
      CAT(J)=' '
198 CONTINUE
    GO TO 29

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C*****
C***** PRINT MENU DISPLAYED
C*****

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200 FOUND=.FALSE.
    TALLYQ=0
    CAT(1)=' '
    DO 201 J=1,8
      CAT(J+1)=' '
      TALLY(J)=0
201 CONTINUE
    WRITE(5,205)
205 FORMAT(////////,21X,'PRINT OPTIONS',/,5X,65(' '),///,
12X,'CURRENT LIST          C',25X,'ANNUAL REPORTS',10X,'A',/,
22X,'SUSPENDED LIST',10X,'S',25X,'BULLETINS ',14X,'B',/,
32X,'TOTAL LIST',14X,'T',25X,'EXPLANATORY NOTES',7X,'E',/,2X,
A'LOOK AT ENTRY',11X,'L',25X,
4'GEOLOGICAL PAPERS',7X,'G',/,52X,'MAPS',20X,'M',/,2X,
5'SELECTIVE',15X,'Q',14X,'CLEAR CATEGORY',10X,'Z',////////,21X,
6'COMMENCE PRINT',/,25X,'MAILING LABELS',6X,'W',/,25X,
7'FILE TO PRINTER',5X,'P',/,21X,'EXIT',20X,'X')

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209 CALL SYSIO(PBLK,Y'29',5,CR,1,0)
    DO 212 J=1,9
      CALL SYSIO(PBLK,Y'29',5,CAT(J),1,0)
212 CONTINUE

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    CALL SYSIO(PBLK,Y'49',5,ANS,1,0)
    IF(ANS.EQ.'L') GO TO 409
    IF(ANS.EQ.'C') CAT(1)='C'
    IF(ANS.EQ.'S') CAT(1)='S'
    IF(ANS.EQ.'T') CAT(1)='T'
    IF(ANS.EQ.'Q') CAT(2)='Q'
    IF(ANS.EQ.'A') CAT(4)='A'
    IF(ANS.EQ.'B') CAT(5)='B'
    IF(ANS.EQ.'E') CAT(6)='E'
    IF(ANS.EQ.'G') CAT(7)='G'
    IF(ANS.EQ.'M') CAT(8)='M'
    IF(ANS.EQ.'Z') THEN
      DO 214 J=2,9
        CAT(J)=' '
214 CONTINUE
    ENDIF

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    IF(ANS.EQ.'W'.OR.ANS.EQ.'P') GO TO 217
    IF(ANS.NE.'X') GO TO 209

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C*****
C***** X CHOICE RETURNS TO MAIN MENU
C*****
    GO TO 29
217 IF(CAT(1).EQ.' ') GO TO 209

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C*****
C***** W CHOICE OPENS FILE FOR STICKY LABEL DATA
C*****
    IF(ANS.EQ.'W') THEN
      IF(.NOT.LABEL) OPEN(UNIT=7,FILE='LABLZZZZ.DAT',RECL=36)
      LABEL=.TRUE.
    ENDIF
    DO 218 J=2,9

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IF(CAT(J).EQ.' ') CAT(J)='-'
218 CONTINUE
CATEG=CAT(3)//CAT(4)//CAT(5)//CAT(6)//CAT(7)//CAT(8)//CAT(9)
IF((CAT(1).EQ.'C'.OR.CAT(1).EQ.'S').AND.CAT(2).NE.'Q'.
1AND.CATEG.EQ.'-----') GO TO 209
WRITE(5,219)
219 FORMAT(1X,'WAIT')
READ(3,910,REC=1) NREC
CDEBUG WRITE(5,222) NREC
C*222 FORMAT(1X,'NREC=',I4)
IF((NREC-1)*10.NE.NINT((NREC-1)/0.7)*7) THEN
WRITE(5,220)
220 FORMAT(///,1X,'WARNING: INCORRECT NUMBER OF RECORDS IN FILE')
PAUSE 'TYPE CO TO CONTINUE'
NENT=INT((NREC-1)/7)
ELSE
NENT=NINT((NREC-1)/7.0)
ENDIF
CDEBUG WRITE(5,225) NENT
C*225 FORMAT(1X,'NENT IS ',I4)
IF(CAT(1).EQ.'T'.AND.CATEG.EQ.'-----'.AND.CAT(2).NE.'Q')
1 GO TO 250
CDEBUG WRITE(5,228)
C*228 FORMAT(1X,'NOT TOTAL TOTAL')
C**
C***** EXAMINE 7TH. LINE OF EACH ENTRY TO SEE IF REQUIRED. COUNT THE
C***** NUMBER OF REQUIRED ENTRIES AND STORE THE RECORD NUMBER OF THE
C***** LINE PRIOR TO THE ENTRY IN THE ARRAY NRECORD.
C**
NFOUND=0
DO 240 J=1,NENT
JREC=J*7+1
READ(3,221,REC=JREC) IDL7,STAT,CATS
221 FORMAT(2A1,2X,A5)
IF(IDL7.NE.'*') THEN
WRITE(5,223)
223 FORMAT(//,1X,'LINE ERROR...NO ASTERISK')
GO TO 29
ENDIF
IF((STAT.EQ.CAT(1).OR.(CAT(1).EQ.'T'.AND.
A(STAT.EQ.'C'.OR.STAT.EQ.'S'))).AND.
1('-'//CATS//'-'.EQ.CATEG.OR.CATEG.EQ.'-----')
2.AND.CAT(2).EQ.'Q') THEN
TALLYQ=TALLYQ+1
GO TO 236
ENDIF
IF(CAT(2).NE.'Q'.AND.
1(STAT.EQ.CAT(1).OR.(CAT(1).EQ.'T'.AND.
2(STAT.EQ.'C'.OR.STAT.EQ.'S')))) THEN
DO 230 JB=4,8
IF(CAT(JB).NE.'-' .AND. INDEX(CATS,CAT(JB)).NE.0) THEN
TALLY(JB-1)=TALLY(JB-1)+1
FOUND=.TRUE.
ENDIF
230 CONTINUE
IF(FOUND) GO TO 236
ENDIF
CDEBUG DO 235 JK=4,8
CDEBUG WRITE(5,234) JK,CATS,INDEX(CATS,CAT(JK))
C*234 FORMAT(1X,'CATS,CAT(',I1,').INDEX(CATS,CAT(JK)).',A5,', '

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CDEBUG1      , A1, ', ', I2)
C*235      CONTINUE
      GO TO 240
236 NFOUND=NFOUND+1
      NRECORD(NFOUND)=JREC-7
      FOUND=. FALSE.
240 CONTINUE
      NENT=NFOUND
250 IF((NENT*10). NE. NINT(NENT/0. 3)*3) THEN
      NROW=INT(NENT/3. 0)
      NLAST=NENT-NROW*3
      ELSE
      NROW=NINT(NENT/3. 0)
      NLAST=0
      ENDIF
CDEBUG      WRITE(5, 251) NROW, NENT, NFOUND, NLAST
C*251      FORMAT(1X, 'NROW, NENT, NFOUND, NLAST ARE ', 4I4)
      DO 290 K=1, NROW
      DO 268 M=1, 3
      IF(CAT(1). EQ. 'T'. AND. CATEG. EQ. '-----') THEN
      JREC=(K-1)*21+(M-1)*7+1
      ELSE
      JREC=NRECORD((K-1)*3+M)
      ENDIF
      DO 260 N=1, 6
      READ(3, 911, REC=JREC+N) CLINE(M, N)
      IF(ANS. EQ. 'W') WRITE(7, 911) CLINE(M, N)
260 CONTINUE
      READ(3, 911, REC=JREC+7) CLINE(M, 7)
      IF(ANS. EQ. 'W') THEN
      DO 265 JA=4, 10
      IF(CLINE(M, 7)(JA: JA). NE. CATEG(JA-3: JA-3)) THEN
      CLINE(M, 7)(JA+8: JA+8)='-'
      ELSE
      CLINE(M, 7)(JA+8: JA+8)=CLINE(M, 7)(JA: JA)
      ENDIF
265 CONTINUE
      WRITE(7, 262) CLINE(M, 7)(12: 18)
262 FORMAT(29(' '), A7)
      CLINE(M, 7)=CLINE(M, 7)(1: 10) // '-' // CLINE(M, 7)(12: 18) //
1 DMON // D4R // CLINE(M, 7)(23: 36)
      WRITE(3, 911, REC=JREC+7) CLINE(M, 7)
      ENDIF
260 CONTINUE
      IF(ANS. EQ. 'W') THEN
      DO 274 LN=1, 3
      DO 273 LN=1, 6
      WRITE(7, 911) CLINE(LM, LN)
273 CONTINUE
      WRITE(7, 262) CLINE(LM, 7)(12: 18)
274 CONTINUE
      ENDIF
      DO 275 L=1, 7
      WRITE(6, 272) CLINE(1, L), CLINE(2, L), CLINE(3, L)
272 FORMAT(1X, A36, 2(10X, A36))
275 CONTINUE
      WRITE(6, 913)
290 CONTINUE
      IF(NLAST. NE. 0) THEN
      DO 320 M=1, NLAST

```

```

IF<CAT(1). EQ. 'T'. AND. CATEG. EQ. '-----'> THEN
JREC=NROW*21+(N-1)*7+1
ELSE
JREC=NRECORD(NROW*3+M)
ENDIF
DO 310 N=1,6
READ(3,911,REC=JREC+N) CLINE(M,N)
IF<ANS. EQ. 'W'> WRITE(7,911) CLINE(M,N)
310 CONTINUE
READ(3,911,REC=JREC+7) CLINE(M,7)
IF<ANS. EQ. 'W'> THEN
DO 314 JA=4,10
IF<CLINE(M,7)<JA:JA>. NE. CATEG<JA-3:JA-3>> THEN
CLINE(M,7)<JA+8:JA+8>='-'
ELSE
CLINE(M,7)<JA+8:JA+8>=CLINE(M,7)<JA:JA>
ENDIF
314 CONTINUE
WRITE(7,262) CLINE(M,7)<12:18>
CLINE(M,7)=CLINE(M,7)<1:10> // '-' // CLINE(M,7)<12:18> //
1 DMON // DYM // CLINE(M,7)<23:36>
WRITE(3,911,REC=JREC+7) CLINE(M,7)
ENDIF
320 CONTINUE
IF<ANS. EQ. 'W'> THEN
DO 323 IM=NLAST+1,3
DO 322 IN=1,7
WRITE(7,321)
321 FORMAT(1X,36(' '))
322 CONTINUE
323 CONTINUE
DO 325 LM=1,NLAST
DO 324 LN=1,6
WRITE(7,911) CLINE(LM,LN)
324 CONTINUE
WRITE(7,262) CLINE(LM,7)<12:18>
325 CONTINUE
ENDIF
DO 330 L=1,7
WRITE(6,327) (CLINE(IN,L),IN=1,NLAST)
327 FORMAT(1X,A36,2(10X,A36))
330 CONTINUE
WRITE(6,913)
ENDIF
IF<CAT(2). EQ. 'Q'> THEN
WRITE(6,333) CATEG,TALLYQ
333 FORMAT(1X,'SELECTIVE ',A7,' TALLY IS',I5)
ELSE
DO 340 J=2,8
IF<CAT(J+1). NE. '-'> THEN
WRITE(6,337) CAT(J+1),TALLY(J)
337 FORMAT(1X,'NUMBER OF ',A1,' CATEGORY IS ',I3)
ENDIF
340 CONTINUE
ENDIF
WRITE(6,913)
GO TO 200

```

```

*****
***** CHANGE ENTRY MENU
*****

```

```

400 WRITE(5,401)
401 FORMAT(10(/,1X),20X,'CHANGE ENTRY MENU',/,17X,26(' '),
1/////,21X,'ACKNOWLEDGEMENT          K',/,21X,
2'SUSPENSION',14X,'S',/,21X,'REINSTATE',15X,'C',/,21X,
3'DELETION          D',/,21X,'EDIT ENTRY          E',
A/,21X,'LOOK AT ENTRY',11X,'L',
4/,21X,'EXIT'20X,'X',/,1X,'HIT KEY OF CHOICE.....',
5'K,S,C,D,E,L,X')
402 CALL SYSIO(PBLK,Y'49',5,CH,1,0)
IF(CH.EQ.'X') GO TO 29
IF(CH.NE.'K'.AND.CH.NE.'S'.AND.CH.NE.'C'.AND.CH.NE.'D'.AND.
1CH.NE.'E'.AND.CH.NE.'L') THEN
WRITE(5,403)
403 FORMAT(/,1X,'YOU MUST ANSWER K OR S OR C OR D OR E OR L OR X',
1/,1X,'HIT KEY OF YOUR CHOICE.....K,S,C,D,E,L OR X',/,1X)
GO TO 402
ENDIF

```

```

C*****
C***** TEXT TARGET SEARCH (ALL OPTIONS BAR EXIT) PLUS
C***** L OPTION FROM PRINT MENU
C*****

```

```

409 WRITE(5,410)
410 FORMAT(1X,'ENTER TEXT TO SEARCH FOR....36 CHARACTERS MAX... ',/,
1'...TERMINATE BY \')
READ(5,911) TARG
DO 420 J=1,37
IF(TARG(J:J).EQ.'\') THEN
LENGTH=J-1
GO TO 425
ENDIF
420 CONTINUE
WRITE(5,422)
422 FORMAT(1X,'NO BACKSLASH....TRY AGAIN. ')
GO TO 409
425 READ(3,910,REC=1) NREC
CDEBUG WRITE(5,428) TARG(1:LENGTH)
C*428 FORMAT(1X,'TARGET IS ',A5)
IF((NREC-1)*10.NE.NINT((NREC-1)/0.7)*7) THEN
WRITE(5,220)
PAUSE 'TYPE CO TO CONTINUE'
NENT=INT((NREC-1)/7.0)
ELSE
NENT=NINT((NREC-1)/7.0)
ENDIF
DO 445 K=1,NENT
KREC=1+(K-1)*7
DO 444 J=1,6
READ(3,911,REC=KREC+J) ALINE
IF(INDEX(ALINE,TARG(1:LENGTH)).NE.0) THEN
READ(3,911,REC=KREC) ALINE
WRITE(5,914)
DO 438 M=1,7
READ(3,911,REC=KREC+M) ALINE
WRITE(5,912) ALINE
438 CONTINUE
WRITE(5,440)
440 FORMAT(1X,'IS THIS THE ENTRY REQUIRED?          N/Y')
CALL SYSIO(PBLK,Y'49',5,ANS,1,0)
IF(ANS.EQ.'Y') GO TO 448
IF(ANS.EQ.'N') GO TO 445

```

```

ENDIF
444 CONTINUE
445 CONTINUE
WRITE(5,446)
446 FORMAT(1X, 'REQUIRED TARGET (OR ENTRY) NOT FOUND', //, 1X,
1 'TRY ANOTHER TARGET?           N/Y')
CALL SYSIO(PBLK, Y'49', 5, ANS, 1, 0)
IF(ANS.EQ. 'Y') GO TO 409
IF(OPT.EQ. 'P') GO TO 200
GO TO 400
*****
***** ACTION TAKEN IF REQUIRED ENTRY FOUND
*****
448 IF(OPT.EQ. 'P') GO TO 200
IF(CH.EQ. 'E') GO TO 470
IF(CH.EQ. 'L') GO TO 400
IF(CH.EQ. 'K') GO TO 453
IF(CH.EQ. 'D') GO TO 475
IF(CH.NE. 'S'. AND. CH.NE. 'C') GO TO 400
*****
***** CHANGE STATUS DONE WITHOUT QUERY
*****
READ(3, 911, REC=KREC+7) ALINE
WRITE(3, 452, REC=KREC+7) CH, ALINE(3:36)
452 FORMAT('* ', A1, A34)
GO TO 400
*****
***** SEVENTH LINE ACKNOWLEDGEMENT UPDATE
*****
453 WRITE(5, 454)
454 FORMAT(///, 1X, 'ENTER YEAR TO WHICH ACKNOWLEDGEMENT REFERS', //,
11X, 'ENTER AS..... YY [RETURN]', //, 1X,
2 'THAT IS, 1985 ENTERED AS... 85 [RETURN], NOT 1985 [RETURN]')
READ(5, 455) IYR
455 FORMAT(I2)
WRITE(5, 456) IYR
456 FORMAT(1X, '19', I2, ' ... IS THIS CORRECT?           N/Y', //, 1X)
CALL SYSIO(PBLK, Y'49', 5, ANS, 1, 0)
IF(ANS.EQ. 'N') GO TO 453
457 WRITE(5, 458)
458 FORMAT(1X, 'ENTER DATE OF ACKNOWLEDGEMENT AS DDMMYY', //, 1X,
1 'E. G. 4TH. MAY 1984 ENTERED AS 040584')
READ(5, 459) KDATE
459 FORMAT(3I2)
WRITE(5, 460) KDATE
460 FORMAT(1X, 'ACKNOWLEDGEMENT DATE IS ', I2, '//', I2, '//19', I2, //,
11X, 'IS THIS CORRECT?           (N/Y)')
CALL SYSIO(PBLK, Y'49', 5, ANS, 1, 0)
IF(ANS.EQ. 'N') GO TO 457
READ(3, 911, REC=KREC+7) ALINE
WRITE(3, 463, REC=KREC+7) ALINE(2:22), KDATE, IYR, ALINE(31:36)
463 FORMAT('* ', A21, 4I2, A6)
GO TO 400
*****
***** EDIT ENTRY
*****
470 CALL EDIT(KREC, NUM, DAT)
GO TO 400
*****
***** ENTRY HARD DELETED FROM FILE

```

```

C*****
475 DO 480 J=KREC+8, NREC
    READ(3, 911, REC=J) ALINE
    WRITE(3, 911, REC=J-7) ALINE
480 CONTINUE
    WRITE(3, 910, REC=1) NREC-7
    GO TO 400

```

```

C*****
C***** END OF RUN
C*****
900 WRITE(5, 145)
910 FORMAT(I4)
911 FORMAT(A36)
912 FORMAT(1X, A36)
913 FORMAT(//, 1X)
914 FORMAT(17(//), 1X)
    CLOSE(UNIT=7, STATUS='KEEP')
    END

```

C
C
C

```

SUBROUTINE EDIT(KREC, NUM, DAT)
INTEGER*2 CR
INTEGER*4 PBLK(6), DAT(3)
CHARACTER*1 ANS, CAT(9)
CHARACTER*3 NUM(6)
CHARACTER*36 ALINE
DO 490 J=1, 7
    READ(3, 911, REC=KREC+J) ALINE
    WRITE(5, 912) ALINE
    IF(J. NE. 7) THEN
        WRITE(5, 464) NUM(J)
464 FORMAT(1X, 'ALTER THIS (', A3, ') LINE?           N/Y')
        CALL SYSIO(PBLK, Y'49', 5, ANS, 1, 0)
        IF(ANS. EQ. 'Y') THEN
            WRITE(5, 466)
466 FORMAT(1X, 'TYPE AMENDED LINE IN FULL... 36 CHARS MAX... [RETURN]')
            READ(5, 911) ALINE
            WRITE(3, 911, REC=KREC+J) ALINE
            ENDIF
        ELSE
            WRITE(5, 468)
468 FORMAT(1X, 'DO YOU WISH TO ALTER CATEGORIES?... N/Y')
            CALL SYSIO(PBLK, Y'49', 5, ANS, 1, 0)
            IF(ANS. EQ. 'Y') THEN
                DO 470 I=2, 9
                    CAT(I)='-'
470 CONTINUE
                    WRITE(5, 137)
474 CALL SYSIO(PBLK, Y'49', 5, ANS, 1, 0)
                    IF(ANS. EQ. 'A') CAT(4)='A'
                    IF(ANS. EQ. 'B') CAT(5)='B'
                    IF(ANS. EQ. 'E') CAT(6)='E'
                    IF(ANS. EQ. 'G') CAT(7)='G'
                    IF(ANS. EQ. 'M') CAT(8)='M'
                    IF(ANS. NE. 'X') GO TO 474
                    WRITE(3, 479, REC=KREC+J) ALINE(2:2), (CAT(I), I=2, 9), ALINE(11:30),
1DAT(2), DAT(3), DAT(1)
479 FORMAT('*, A1, 8A1, A20, 3I2)
                    ENDIF

```

19/
20

```
ENDIF
490 CONTINUE
RETURN
137 FORMAT(/, 1X, 'ENTER CATEGORIES ABEGM. TYPE X WHEN FINISHED')
911 FORMAT(A36)
912 FORMAT(1X, A36)
END
```

00/20

APPENDIX 2

EXCHLST listing

```
*****  
XDE SYSF:EXLST.DAT  
REP SYS3:EXLST.DAT,0000  
COPY SYS3:EXLST.DAT,SYSF:EXLST.DAT  
L LIBLST,3  
AS 3,SYSF:EXLST.DAT  
AS 5,CON:  
AS 6,PR:  
ST  
$IFE 0  
XDE SYS3:EXLST.DAT  
COPY SYSF:EXLST.DAT,SYS3:EXLST.DAT  
REP SYS3:EXLST.DAT,FF00  
$ENDC  
$EXIT  
$EXIT
```

APPENDIX 3

Initial creation of the file

```
ALLOCATE EXLST.DAT,IN,36  
EDIT EXLST.DAT (so that it is a file of one record  
containing the numeral "1" in the  
fourth column).
```