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1000 'BOX - Routine to print boxes around strings - THOR
1010 MX=0:FOR A=1 TO NL:LL=LEN(PO$(A)):IF LL>MX THEN MX=LL
1020 NEXT A:HP$="":FOR A=1 TO MX+6:HP$=HP$+"*":NEXT A
1030 EX=40-(MX/2)
1040 PRINT SPC(EX);HP$
1050 FOR A=1 TO NL
1060 PRINT SPC(EX)+"* "+PO$(A)+SPACE$(MX-LEN(PO$(A))+2)+"*"
1070 NEXT A
1080 PRINT SPC(EX);HP$
1090 RETURN
2000 'CURS - CURSOR AND LINE PRINTER CONTROL - THOR
2010 OUT 17,27:OUT 17,42:WAIT 16,2:RETURN 'CLEAR SCREEN
2020 OUT 17,27:OUT 17,61:OUT 17,31+Y:OUT 17,31+X:WAIT16,2 +
:RETURN 'MOVE TO X,Y
2030 OUT 17,27:OUT 17,84:WAIT 16,2:RETURN 'LINE ERASE
2040 OUT 17,27:OUT 17,89:WAIT 16,2:RETURN 'PAGE ERASE
2050 OUT 17,30:WAIT 16,2:RETURN 'GO HOME
2060 GOSUB2020:OUT17,13:WAIT16,2:GOTO2030 'GOTO X,Y AND C +
LEAR LINE
2070 GOSUB2020:GOTO2050 'GOTO X,Y AND CLEAR RIGHT AND DOWN
2080 GOSUB 2120:LF=0:RETURN 'SET PERM TERM TO TTY
2090 GOSUB 2130:LF=-1:RETURN 'SET PERM TERM TO LPT
2100 IF LP THEN 2130 ELSE 2120 'SET TO PERM TERM
2110 IF LP THEN OUT 17,12:RETURN ELSE RETURN 'TOP OF FORM +
IF ON LPT
2120 WD=79:CONSOLE16,1:WIDTHWD:NULL0:RETURN 'SET TEMP TER +
M TO TTY
2130 WD=132:CONSOLE18,1:WIDTHWD:NULL3:RETURN 'SET TEMP TE +
RM TO LPT
2140 IFWD=0THENGOSUB2080 'PRINT C$ CENTERED PLUS D$ AT D
2150 PRINTSTRING$(ABS((WD-LEN(C$))/2),32);C$;TAB(D);D$:C$ +
=""":D$="";D=0:RETURN
2160 IFBL<=0THENRETURNELSEFORB9=1TOBL:PRINT:NEXTB9:RETURN +
'BL BLANKS
3000 'ERRS - DATA CONTAINING BASIC ERRORS - THOR
3010 DATA 1,NEXT without FOR,2,Syntax error
3020 DATA 3,RETURN without GOSUB,4,Out of Data,5,Illlegal +
function call
3030 DATA 6,Overflow,7,Out of memory,8,Undefined line,9,S +
ubscript out of range
3040 DATA 10,Redimensioned array,11,Division by zero,12,I +
llegal direct
3050 DATA 13,Type mismatch,15,String too long,16,String f +
ormula too complex
3060 DATA 17,Can't continue,18,Undefined user function,19 +
,No RESUME
3070 DATA 20,RESUME without error,21,Unprintable error
3080 DATA 22,Missing operand,23,Line buffer overflow,24,U +
nsupported operation
3090 DATA 50,Field overflow,51,Internal error,52,Bad file +
number
3100 DATA 53,File not found,54,Bad file mode,55,File alre +
ady open
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3110 DATA 56,Disk not mounted,57,Disk I/O error,58,File a +  
lready exists  
3120 DATA 59,Set to a non-disk string,60,Disk already mou +  
nted  
3130 DATA 61,Disk full,62,Input past end,63,Bad record nu +  
mber  
3140 DATA 64,Bad file name,65,Mode-mismatch,66,Direct sta +  
tement in file  
3150 DATA 67,Too many files,68,Out of random blocks,69,Fi +  
le link error  
3160 DATA 70,Bad random sector  
3170 DATA 0,END  
4000 'INFORM - PROGRAM FOR FORMATTED INPUT - THOR  
4005 DIM IN$(15)  
4010 DEF FNV$(A$)=CHR$(ASC(A$)+32*(A$>"_"))  
4015 DEF FNN$(A,B)=RIGHT$("000000"+MID$(STR$(A),2),B)  
4020 CLOSE6:OPEN"R",6,"<DATE>",1:FIELD6,8$A$IA$:GET6,1:BT$ +  
=IA$:$CLOSE8  
4025 'DATA FIRST, LAST, HEADING  
4030 'FOR number=first TO last  
4035 'DATA NUMBER, PROMPT, ARRAY#, LENGTH, TYPE, DEFAULT, ERROR +  
, FORM  
4040 'NEXT number  
4045 'TYPE 1 = STRING  
4050 ' 2 = DECIMAL NUMBER  
4055 ' 3 = DATE  
4060 ' 4 = SPECIAL FORM  
4065 ' 5 = A PATIENT NUMBER  
4070 'DEFAULT is the string which will be used for default  
4075 'ERROR is a binary number which is used for coding  
4080 ' 180 = Do not allow default  
4085 'FORM is used for special form it is a string of for +  
matting  
4090 ' characters that will cause strings to be in format  
4095 ' according to character position.  
4100 ' A = A-Z, or 0-9. Lower case will be converted  
4105 ' B = A-Z, Lower case will be converted  
4110 ' C = any character  
4115 ' D = 0-9  
4120 ' E = A-Z, a-z, or space  
4125 ' F = an A with punctuation  
4130 ' G = an F with space  
4135 ' H = Nothing allowed in or after this position +  
(except spaces)  
4140 RESTORE  
4145 DIM E(15)  
4150 ON ERROR GOTO 4375  
4155 READ FI,LI  
4160 FOR GO=FI TO LI  
4165 EP=0  
4170 READ NM,PR$,AR,LN,TY,DF$,ER,FO$  
4175 IF NM<>GO THEN EP=EP+1:GOTO 4170  
4180 EP=0  
4185 GOSUB 4335
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4190 PRINT PR$;:ON TY GOTO 4205,4220,4230,4265,4195
4195 GOSUB 4390:C1$=LEFT$(IN$(AR),1):IF C1$="" THEN IF E( +
 0) THEN PRINT "Default not allowed":GOTO 4170
4200 C1$=FNV$(C1$):IN$(AR)=C1$+FNN$(VAL(MID$(IN$(AR),2)), +
 6):GOTO 4325
4205 GOSUB 4390:IF LEN(IN$(AR))>LN THEN PRINT "Extra lens +
 th ignored":IN$(AR)=LEFT$(IN$(AR),LN)
4210 IF LEN(IN$(AR))=0 THEN IF E(0) THEN PRINT "Default n +
 ot allowed":GOTO 4190 ELSE IN$(AR)=DF$
4215 GOTO 4325
4220 GOSUB 4390:IF IN$(AR)="" THEN IF E(0) THEN PRINT "De +
 fault not allowed":GOTO 4190 ELSE IN$(AR)=DF$
4225 IN$(AR)=MID$(STR$(VAL(IN$(AR))),2):GOTO 4325
4230 GOSUB 4390:IF IN$(AR)="" THEN IF E(0) THEN PRINT "No +
 default allowed":GOTO 4170 ELSE IN$(AR)=DT$
4235 MM=VAL(LEFT$(IN$(AR),2)):DD=VAL(MID$(IN$(AR),4,2)):Y +
 R=VAL(RIGHT$(IN$(AR),2))
4240 IF MM<0 OR MM>12 THEN PRINT "Error in month field (M +
 M/dd/yr)":GOTO 4170
4245 IF DD<0 OR DD>31 THEN PRINT "Error in day field (mm/ +
 DD/yr)":GOTO 4170
4250 IF YR<790R YR>90 THEN PRINT "Error in year field (mm +
 /dd/YR)":GOTO 4170
4255 IN$(AR)=FNN$(MM,2)+"/"+FNN$(DD,2)+"/"+FNN$(YR,2)
4260 GOTO 4325
4265 GOSUB 4390:IF IN$(AR)="" THEN IF E(0) THEN PRINT "De +
 fault not allowed":GOTO 4170 ELSE IN$(AR)=DF$
4270 FOR PS=1 TO LEN(F0$):C1$=MID$(IN$(AR),PS,1):F1$=MID$ +
 (F0$,PS,1)
4275 'PRINT INSTR("ABCDEFGH",F1$)+1
4280 ON INSTR("ABCDEFGH",F1$)+1 GOTO 4285,4290,4295,4300, +
 4305,4285,4285,4285,4310
4285 PRINT "Format word error":GOTO 4380
4290 C1$=FNV$(C1$):IF NOT ((C1$>="A" AND C1$<="Z") OR (C1 +
 $)>="0" AND C1$<="9")) THEN PRINT "Format error":GOTO 436 +
 5 ELSE 4315
4295 C1$=FNV$(C1$):IF C1$<"A" OR C1$>"Z" THEN PRINT "Form +
 at error":GOTO 4365 ELSE 4315
4300 IF C1$<" " THEN PRINT "Format error":GOTO 4365 ELSE +
 4315
4305 IF C1$<"0" OR C1$>"9" THEN PRINT "Format error":GOTO +
 4365 ELSE 4315
4310 IF C1$<>"" THEN PRINT "Format error":GOTO 4365 ELSE +
 4315
4315 IF PS<=LEN(IN$(AR)) THEN MID$(IN$(AR),PS,1)=C1$
4320 NEXT PS
4325 PRINT IN$(AR):NEXT GO
4330 END
4335 EF%=ER
4340 FOR E=0 TO 14
4345 E(E)=EF%AND1
4350 EF%=EF%//2
4355 NEXT E
4360 RETURN
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4365 PRINT IN$(AR):IF PS<>1 THEN PRINT SPC(PS-1)
4370 PRINT "~":GOTO 4170
4375 IF ERR=4 AND EP<90 THEN RESTORE:READ Q,Q1:RESUME 4170
4380 IF ERR=4 THEN PRINT "Error in data structure"
4385 ON ERROR GOTO 0
4390 LINEINPUT IN$(AR):IF IN$(AR)="BK" THEN IF GO=1 THEN +
4470 ELSE 4400
4395 RETURN
4400 FOR GO=GO-1 TO LI:GOTO 4165
4405 DATA 1,12
4410 DATA 1,"Patient code: ",1,8,5,,1,
4415 DATA 2,"Doctor code: ",2,4,4,,1,BBDH
4420 DATA 3,"Patient name: ",3,20,1,,1,
4425 DATA 4,"Incare of: ",4,14,1,,0,
4430 DATA 5,"Address-1: ",5,20,1,,0,
4435 DATA 6,"Address-2: ",6,20,1,,0,
4440 DATA 7,"Age: ",7,4,2,0,0,
4445 DATA 8,"Charse code: ",8,6,4,,1,BAH
4450 DATA 9,"Date of service: ",9,8,3,,0,
4455 DATA 10,"Billins status: ",10,2,2,1,0,
4460 DATA 11,"Insur code: ",11,4,1,,0,
4465 DATA 12,"Phone: ",12,12,1,,0,
4470 PRINT "Off of the top"
4475 EP=0
4480 GOSUB 4485
4485 EP=EP+1:GOTO 4480
5000 'JUST - Program for justification - THOR
5010 WC=1:PRINT "[Justifying margins]"
5020 FOR WN=1 TO IC
5030 AC$=IB$(WN)
5040 IF LEFT$(AC$,1)="" THEN AC$=MID$(AC$,2):GOTO 5040
5050 IF AC$="" THEN 5080
5060 SN=INSTR(AC$," "):IF SN=0 THEN WD$(WC)=AC$:WC=WC+1:G +
OTO 5080
5070 WD$(WC)=LEFT$(AC$,SN-1):WC=WC+1:AC$=MID$(AC$,SN+1):G +
OTO 5040
5080 NEXT WN
5090 OC=1:PO$="":WF=1
5100 T$=PO$":IF T$<>" " THEN T$=T$+" "
5110 IF RIGHT$(T$,2)="" THEN T$=T$+" "
5120 T$=T$+WD$(WF):WF=WF+1
5130 IF LEN(T$)>MB(OC) THEN WF=WF-1:GOTO 5160
5140 PO$=T$":IF WF<WC THEN 5100
5150 OC$(OC)=PO$":OC=OC+1:GOTO 5170
5160 OC$(OC)=PO$":PO$=" ":OC=OC+1:GOTO 5100
5170 OC=OC-1:WC=WC-1:PRINT "[DONE]":RETURN
6000 'LETTS - PROGRAM TO LOAD LETTER ARRAY FROM FILE - THOR
6010 CLEAR A:CLEAR 5000:CLOSE
6020 DIM F$(7),PC$(13)
6030 OPEN "R",1,"<ASCII>",1
6040 FIELD1,9ASF$(1),9ASF$(2),9ASF$(3),9ASF$(4),9ASF$(5), +
9ASF$(6),9ASF$(7)
6050 A$=SPACE$(81):FOR A=1 TO 13:PC$(A)=A$:NEXT A:A$=" "
6060 R=1:P$="2-Feb-80":GOSUB 6090:R=2:P$="1 2 3 4":GOSUB +
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6090
6070 FOR A=1 TO 13:PRINT LEFT$(PC$(A),78):NEXT A
6080 END
6090 SR=((R-1)*6)+1
6100 P$=LEFT$(P$+SPACE$(20),10)
6110 FOR CL=1 TO 10
6120 RN$=MID$(P$,CL,1):RC=ASC(RN$):IF RC=0 THEN 6190
6130 GET 1,RC
6140 SC=((CL-1)*8)+1
6150 FOR RW=1 TO 7
6160 FOR PT=SC TO SC+8
6170 IF MID$(F$(RW),PT-SC+1,1)="*" THEN MID$(PC$(RW-1+SR) +
,PT,1)="*"
6180 NEXT PT,RW
6190 NEXT CL
6200 RETURN
7000 'LINEF - Formats lines for output - THOR
7005 CR$=CHR$(13):LF$=CHR$(10):TB$=CHR$(9):PL=80
7010 PO=1
7015 P1=INSTR(PO$(PO),CR$):IF P1<>0 THEN IF P1=1 THEN PO$ +
(PO)=MID$(PO$(PO),2):GOTO 7015 ELSE PO$(PO)=LEFT$(PO$(PO +
),P1-1)+MID$(PO$(PO),P1+1):GOTO 7015
7020 P1=INSTR(PO$(PO),TB$):IF P1=0 THEN 7040
7025 P2=(9-(P1 MOD 8)) MOD 8:IF P2=0 THEN P2=8
7030 IF P1=1 THEN PO$(PO)=SPACE$(P2)+MID$(PO$(PO),2):GOTO +
7020
7035 PO$(PO)=LEFT$(PO$(PO),P1-1)+SPACE$(P2)+MID$(PO$(PO), +
P1+1):GOTO 7020
7040 P1=LEN(PO$(PO)):P2=INSTR(PO$(PO),LF$)
7045 IF P2>PL OR P2=0 THEN 7060
7050 IF P2=1 THEN PO$(PO+1)=MID$(PO$(PO),2):PO$(PO)=" ";PO +
=PO+1:GOTO 7010
7055 PO$(PO+1)=MID$(PO$(PO),P2+1):PO$(PO)=LEFT$(PO$(PO),P +
2-1):PO=PO+1:GOTO 7040
7060 IF P1<=PL THEN RETURN
7065 PO$(PO+1)=" "+MID$(PO$(PO),PL-2):PO$(PO)=LEFT$(PO$(PO +
0),PL-3)+" ";PO=PO+1:GOTO 7040
8000 'LINEIN - Inputs lines from the terminal - THOR
8010 CI=0:RN$=" ";RC=0
8020 PRINT CR$;ESC$;"T";PM$;RN$;
8030 WAIT16,1:CR=INF(17)AND127
8040 IF CI<RM AND CR>=32 AND CR<>127 THEN 8210
8050 IF CR=13 OR CR=10 OR RC<>0 THEN IF CI=0 THEN RN$="" : +
PRINT:RETURN ELSE RN$=LEFT$(RN$,CI):PRINT:RETURN
8060 IF CR=27 THEN RC=1:GOTO8050
8070 IF CR=26 THEN RC=3:GOTO 8050
8080 IF CR=11 THEN RC=2:PRINT CR$;ESC$;"T";:RN$="" :CI=0:R +
ETURN
8090 IF CR=18 THEN 8020
8100 IF CR=21 OR CR=24 THEN 8010
8110 IF CR<>8 AND CR<>127 THEN 8150
8120 IF CI=1 THEN 8010
8130 IF CI<=0 THEN CI=0:PRINT BEL$;;GOTO 8030
8140 CI=CI-1:RN$=LEFT$(RN$,CI):PRINT BS$;SP$;BS$;;GOTO 8030

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8150 IF CI>=RM THEN PRINT BEL$:$GOTO 8030
8160 IF CR=20 THEN TB(CI)=1:GOTO 8030
8170 IF CR=14 THEN TB(CI)=0:GOTO 8030
8180 IF CR<>9 THEN 8200
8190 PS=CI:FOR CT=PS TO RM:IF TB(CT)<>1 OR CT=PS THEN RN$ +
 =RN$+SP$:CI=CI+1:PRINT SP$:$NEXT CT:GOTO8030ELSE8030
8200 PRINT BEL$:$GOTO8030
8210 CI=CI+1:RN$=RN$+CHR$(CR)
8220 PRINT CHR$(CR):
8230 GOTO 8030
8240 DATA 5,30,58,-1
8250 DATA January,February,March,April,May,June,July,Augu +
 st,September,October
8260 DATA November,December,-1
9000 'Quicksort character array LB$(NL), where NL is # of +
 lines
9010 DIM LV%(10),UV%(10)
9020 LV%(1)=1:UV%(1)=NL:P%=1:SC=0
9030 SC=SC+1:PRINT SC;SFC(10);CHR$(13):IF P%<=0 THEN 912 +
 0 ELSE IF LV%(P%)>=UV%(P%) THEN P%=P%-1:GOTO 9030
9040 I%=LV%(P%)-1:J%=UV%(P%):PV%=J%
9050 IF I%>=J% THEN 9090 ELSE I%=I%+1
9060 IF LB$(I%)>=LB$(PV%) THEN J%=J%-1:GOTO 9070 ELSE I%=
 + I%+1:GOTO 9060
9070 IF J%<=I% THEN 9080 ELSE IF LB$(J%)<=LB$(PV%) THEN 9 +
 080 ELSE J%=J%-1:GOTO 9070
9080 IF I%<J% THEN SWAP LB$(I%),LB$(J%):GOTO 9050 ELSE 9050
9090 J%=UV%(P%):SWAP LB$(I%),LB$(J%)
9100 IF (I%-LV%(P%)<UV%(P%)-I%) THEN LV%(P%+1)=LV%(P%):UV +
 %(P%+1)=I%-1:LV%(P%)=I%+1 ELSE LV%(P%+1)=I%+1:UV%(P%+1)= +
 UV%(P%):UV%(P%)=I%-1
9110 P%=P%+1:GOTO 9030
9120 PRINT "Sort order":SC/NL:ERASE LV%,UV%:RETURN
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