

1. Here is a screenshot of my full source code in the ISPF editor

```
File Edit Edit_Settings Menu Utilities Compilers Test Help
EDIT KC03C55.COBOL.CBL(ANNUITY) - 01.34 Columns 00001 00072
***** Top of Data *****
000001 *-----
000002 IDENTIFICATION DIVISION.
000003 *-----
000004 PROGRAM-ID. ANNUITY.
000005 *-----
000006 DATA DIVISION.
000007 *-----
000008 WORKING-STORAGE SECTION.
000009 01 TOTAL-LOAN PIC 9(9)V99.
000010 01 INTEREST-RATE PIC 999V99.
000011 01 INTEREST-RATEP PIC 999V99 VALUE ZERO.
000012 01 MONTHS PIC 999 VALUE ZERO.
000013 01 YEARS PIC 999.
000014 01 MONTHLY-PAYMENT PIC 9(9)V99.
000015 01 USER-INPUT PIC X(10).
000016 01 GOOD-INPUT PIC 99 VALUE ZERO.
000017 *-----
Command ==> Scroll ==> PAGE
F1=Help F2=Split F3=Exit F4=Expand F5=Rfind F6=Rchange
F7=Up F8=Down F9=Swap F10=Left F11=Right F12=Cancel

File Edit Edit_Settings Menu Utilities Compilers Test Help
EDIT KC03C55.COBOL.CBL(ANNUITY) - 01.34 Columns 00001 00072
000018 PROCEDURE DIVISION.
000019 *-----
000020 DISPLAY 'WELCCOME TO ANDREWS LOAN CALCULATOR'.
000021 PERFORM UNTIL GOOD-INPUT = 1
000022 DISPLAY 'PLEASE INPUT TOTAL YEARS'
000023 ACCEPT USER-INPUT
000024 IF USER-INPUT NOT ALPHABETIC
000025 COMPUTE YEARS = FUNCTION NUMVAL (USER-INPUT)
000026 IF YEARS > 0 AND YEARS < 65
000027 DISPLAY 'YEARS ACCEPTED'
000028 COMPUTE GOOD-INPUT = GOOD-INPUT + 1
000029 ELSE
000030 DISPLAY 'YEARS MUST BE BETWEEN 0-65'
000031 END-IF
000032 ELSE
000033 DISPLAY 'INPUT IS NOT ALPHABETIC'
000034 STOP RUN
000035 END-IF
Command ==> Scroll ==> PAGE
F1=Help F2=Split F3=Exit F4=Expand F5=Rfind F6=Rchange
F7=Up F8=Down F9=Swap F10=Left F11=Right F12=Cancel
```

```

File Edit Edit_Settings Menu Utilities Compilers Test Help
EDIT      KC03C55.COBO1.CBL(ANNUITY) - 01.34          Columns 00001 00072
000036    END-PERFORM.
000037    COMPUTE GOOD-INPUT = GOOD-INPUT - 1.
000038    PERFORM UNTIL GOOD-INPUT = 1
000039        DISPLAY 'PLEASE ENTER AN INTEREST RATE .00 - .99'
000040        ACCEPT USER-INPUT
000041        IF USER-INPUT NOT ALPHABETIC
000042            COMPUTE INTEREST-RATE = FUNCTION NUMVAL (USER-INPUT)
000043            IF INTEREST-RATE > 0.00 AND INTEREST-RATE < 1.00
000044                DISPLAY 'INTEREST RATE ACCEPTED.'
000045                COMPUTE GOOD-INPUT = GOOD-INPUT + 1
000046            ELSE
000047                DISPLAY 'INTEREST RATE OUT OF RANGE'
000048            END-IF
000049        END-IF
000050    END-PERFORM.
000051    COMPUTE GOOD-INPUT = GOOD-INPUT - 1.
000052    PERFORM UNTIL GOOD-INPUT = 1
000053        DISPLAY 'PLEASE INPUT A LOAN AMOUNT GREATER THAN 0'
Command ==>
F1=Help    F2=Split    F3=Exit    F4=Expand    F5=Rfind    F6=Rchange
F7=Up      F8=Down     F9=Swap    F10=Left    F11=Right   F12=Cancel

```

```

File Edit Edit_Settings Menu Utilities Compilers Test Help
EDIT      KC03C55.COBO1.CBL(ANNUITY) - 01.34          Columns 00001 00072
000054    DISPLAY 'AND LESS THAN 100000'
000055    ACCEPT USER-INPUT
000056    IF USER-INPUT NOT ALPHABETIC
000057        COMPUTE TOTAL-LOAN = FUNCTION NUMVAL (USER-INPUT)
000058        IF TOTAL-LOAN > 0 AND TOTAL-LOAN < 100000
000059            DISPLAY 'LOAN AMOUNT ACCEPTED'
000060            COMPUTE GOOD-INPUT = GOOD-INPUT + 1
000061        ELSE
000062            DISPLAY 'LOAN AMOUNT OUT RANGE'
000063            DISPLAY 'MUST BE GREATER THAN 0'
000064            DISPLAY 'AND LESS THAN 100000'
000065        END-IF
000066    END-IF
000067    END-PERFORM.
000068    COMPUTE INTEREST-RATEP = INTEREST-RATE * 100.
000069    DISPLAY 'TOTAL-LOAN: ' TOTAL-LOAN ' USD - INTEREST-RATE: '
000070    INTEREST-RATEP '%'.
000071    DISPLAY ' Y M AMOUNT '.
Command ==>
F1=Help    F2=Split    F3=Exit    F4=Expand    F5=Rfind    F6=Rchange
F7=Up      F8=Down     F9=Swap    F10=Left    F11=Right   F12=Cancel

```

```
Vista TN3270 Session A
File Edit Font Transfer Macro Options Window Help
File Edit Edit_Settings Menu Utilities Compilers Test Help

EDIT      KC03C55.COBOL.CBL(ANNUITY) - 01.34      Columns 00001 00072
000072      DISPLAY '--- --- -----',
000073      PERFORM YEARS TIMES
000074      ADD 12 TO MONTHS
000075      COMPUTE MONTHLY-PAYMENT = TOTAL-LOAN * FUNCTION ANNUITY (
000076 -      INTEREST-RATE / 12), MONTHS)
000077      COMPUTE YEARS = MONTHS / 12
000078      DISPLAY YEARS ' ' MONTHS ' ' MONTHLY-PAYMENT ' USD'
000079      END-PERFORM.
000080
000081      GOBACK.
***** ***** Bottom of Data *****

Command ==>
F1=Help    F2=Split  F3=Exit    F4=Expand  F5=Rfind   F6=Rchange
F7=Up      F8=Down    F9=Swap    F10=Left   F11=Right  F12=Cancel

Scroll ==> PAGE
MA 0.0 09/27/24.271 03:34PM zos.ccec.unf.edu A 22/7
```

2. Here is screenshot of an interactive run of my code in the terminal. I put in an invalid input for each option to demonstrate not only how my program checks for proper input, but also to show how it displays error messages and keeps checking for the correct input.

```
Menu Utilities Compilers Options Status Help
-----
                    ISPF Primary Option Menu
                        More:  -

DE DXT END USER  Invoke DXT End User Dialogs
DU MVS/DITTO     MVS/DITTO Utility
IN INSPECT       INSPECT for C/370 and PL/I
D2 DB2I          Perform DB2 Interactive functions
DM DB2ADM        DB2 Admin Tool
QM QMF           Query Management Facility
CO CICS PD/MVS   CICS PD/MVS Online Customization
CP CICS PD/MVS   CICS Problem Determination/MVS
OP OPC/ESA       Operations Planning/Control/ESA
W WLM            Work Load Manager Administration
RS RRS           Resource Recovery Services
AP APA           ADFz Application Performance Analyzer
  D Debug Tool   ADFz Debug Tool Utility 14.2
FA IDI           ADFz Fault Analyzer 14.2.0
FM File Manager  ADFz File Manager for z/OS
FD FM/DB2        ADFz File Manager/DB2

WELCOME TO ANDREWS LOAN CALCULATOR
PLEASE INPUT TOTAL YEARS

User ID . : KC03C55
Time. . . : 15:28
Terminal. : 3278
Screen. . : 1
Language. : ENGLISH
Appl ID . : ISR
TSO logon : DBPROCDG
TSO prefix: KC03C55
System ID : S0W1
MVS acct. : ACCT#
Release . : ISPF 7.5
```

Vista TN3270 Session A

File Edit Font Transfer Macro Options Window Help

68
YEARS MUST BE BETWEEN 0-65
PLEASE INPUT TOTAL YEARS
20
YEARS ACCEPTED
PLEASE ENTER AN INTEREST RATE .00 - .99
2
INTEREST RATE OUT OF RANGE
PLEASE ENTER AN INTEREST RATE .00 - .99
.3
INTEREST RATE ACCEPTED.
PLEASE INPUT A LOAN AMOUNT GREATER THAN 0
AND LESS THAN 100000
111111
LOAN AMOUNT OUT RANGE
MUST BE GREATER THAN 0
AND LESS THAN 100000
PLEASE INPUT A LOAN AMOUNT GREATER THAN 0
AND LESS THAN 100000
00000
LOAN AMOUNT ACCEPTED
TOTAL-LOAN: 00008000000 USD - INTEREST-RATE: 03000%
Y M AMOUNT

MA 0.0 09/27/24.271 03:31PM zos.ccec.unf.edu A 24.6

```
--- --- -----  
001 012 00000779897 USD  
002 024 00000447303 USD  
003 036 00000339613 USD  
004 048 00000288048 USD  
005 060 00000258827 USD  
006 072 00000240673 USD  
007 084 00000228744 USD  
008 096 00000220613 USD  
009 108 00000214932 USD  
010 120 00000210894 USD  
011 132 00000207989 USD  
012 144 00000205880 USD  
013 156 00000204339 USD  
014 168 00000203209 USD  
015 180 00000202376 USD  
016 192 00000201761 USD  
017 204 00000201307 USD  
018 216 00000200970 USD  
019 228 00000200720 USD  
020 240 00000200535 USD  
***
```

Conclusions

This time around I felt much more comfortable using ISPF and coding in COBOL. I did have to look up how to use conditionals and ACCEPT statements. I ended having a lot of errors from placing periods within perform and evaluate statements and it gave me a lot of trouble. I also was struggling with reading in input as I did not know it needed to be converted into an integer. Overall I feel a lot more comfortable coding in cobol and using ISPF.