COBOL Project 1:

JCL:

```
//CBLVAPRJ JOB 1,NOTIFY=&SYSUID
//*************************************************/
//* Run COBOL Program to Run
//* Report for U.S. Presidents
//* Last Modified by Runtime Terror
//* NOTE: Changed the JCL to run from my local
//* Datasets. Will need to modify JCL when
//* Placed into production
//*************************************************/
//COBRUN  EXEC IGYWCL
//COBOL.SYSIN  DD DSN=&SYSUID..ADPROJ1.CBL(CBLVAPR),DISP=SHR
//LKED.SYSLMOD DD DSN=&SYSUID..COBOL.LOAD(CBLVAPR),DISP=SHR
//*************************************************/
// IF RC = 0 THEN
//*************************************************/
//RUN    EXEC PGM=CBLVAPR
//STEPLIB  DD DSN=&SYSUID..COBOL.LOAD,DISP=SHR
//ACCTREC  DD DSN=&SYSUID..ADPROJ1.DATA,DISP=SHR
//PRTLINE  DD SYSOUT=*,OUTLIM=15000
//SYSOUT   DD SYSOUT=*,OUTLIM=15000
//CEEDUMP  DD DUMMY
//SYSUDUMP  DD DUMMY
//*************************************************/
// ELSE
// ENDIF
```

COBOL:

```
     *----------------------
     * Copyright Osprey FinTech LLC
     *
     *----------------------
      IDENTIFICATION DIVISION.
     *----------------------
      PROGRAM-ID.     CBLVAPR
      AUTHOR.         Lotsa Developer
     *--------------------
      ENVIRONMENT DIVISION.
     *--------------------
      INPUT-OUTPUT SECTION.
      FILE-CONTROL.
          SELECT PRINT-LINE ASSIGN TO PRTLINE.
```

```cobol
       SELECT ACCT-REC   ASSIGN TO ACCTREC.
*-------------
 DATA DIVISION.
*-------------
 FILE SECTION.
 FD  PRINT-LINE RECORDING MODE F.
 01  PRINT-REC.
     05  ACCT-NO-O      PIC X(8).
     05  FILLER         PIC X(02) VALUE SPACES.
     05  LAST-NAME-O    PIC X(20).
     05  FILLER         PIC X(02) VALUE SPACES.
     05  ACCT-LIMIT-O   PIC $$,$$$,$$9.99.
     05  FILLER         PIC X,02) VALUE SPACES.
     05  ACCT-BALANCE-O PIC $$,$$$,$$9.99.
     05  FILLER         PIC X(02) VALUE SPACES.
*
 FD  ACCT-REC RECORDING MODE F.
 01  ACCT-FIELDS.
     05  ACCT-NO           PIC X(8).
     05  ACCT-LIMIT        PIC S9(7)V99 COMP-3.
     05  ACCT-BALANCE      PIC S9(7)V99 COMP-3.
     05  LAST-NAME         PIC X(20).
     05  FIRST-NAME        PIC X(15).
     05  CLIENT-ADDR.
         10  STREET-ADDR   PIC X(25).
         10  CITY-COUNTY   PIC X(20).
         10  USA-STATE     PIC X(15).
     05  RESERVED          PIC X(7).
     05  COMMENTS          PIC X(50).
*
 WORKING-STORAGE SECTION.
 01  Filler.
     05 LASTREC            PIC X VALUE SPACE.
     05 DISP-SUB1          PIC 9999.
     05 SUB1               PIC 99.

   01 OVERLIMIT.
     03 FILLER OCCURS 50  TIMES.
         05  OL-ACCT-NO           PIC X(8).
         05  OL-ACCT-LIMIT        PIC S9(7)V99 COMP-3.
         05  OL-ACCT-BALANCE      PIC S9(7)V99 COMP-3.
         05  OL-LASTNAME          PIC X(20).
         05  OL-FIRSTNAME         PIC X(15).


*
 01  CLIENTS-PER-STATE.
     05 FILLER              PIC X(19) VALUE
```

```cobol
           'Virginia Clients = '.
       05 VIRGINIA-CLIENTS    PIC 9(3) VALUE ZERO.
       05 FILLER              PIC X(59) VALUE SPACES.


   01  OVERLIMIT-STATUS.
       05 OLS-STATUS          PIC X(30) VALUE
          'No Accounts Overlimit '.
       05 OLS-ACCTNUM         PIC XXXX VALUE SPACES.
       05 FILLER              PIC X(45) VALUE SPACES.


  *
   01  HEADER-1.
       05  FILLER             PIC X(20) VALUE 'Financial Report for'.
       05  FILLER             PIC X(60) VALUE SPACES.
  *
   01  HEADER-2.
       05  FILLER             PIC X(05) VALUE 'Year '.
       05  HDR-YR             PIC 9(04).
       05  FILLER             PIC X(02) VALUE SPACES.
       05  FILLER             PIC X(06) VALUE 'Month '.
       05  HDR-MO             PIC X(02).
       05  FILLER             PIC X(02) VALUE SPACES.
       05  FILLER             PIC X(04) VALUE 'Day '.
       05  HDR-DAY            PIC X(02).
       05  FILLER             PIC X(56) VALUE SPACES.
  *
   01  HEADER-3.
       05  FILLER             PIC X(08) VALUE 'Account '.
       05  FILLER             PIC X(02) VALUE SPACES.
       05  FILLER             PIC X(10) VALUE 'Last Name '.
       05  FILLER             PIC X(15) VALUE SPACES.
       05  FILLER             PIC X(06) VALUE 'Limit '.
       05  FILLER             PIC X(06) VALUE SPACES.
       05  FILLER             PIC X(08) VALUE 'Balance '.
       05  FILLER             PIC X(40) VALUE SPACES.
  *
   01  HEADER-4.
       05  FILLER             PIC X(08) VALUE '--------'.
       05  FILLER             PIC X(02) VALUE SPACES.
       05  FILLER             PIC X(10) VALUE '----------'.
       05  FILLER             PIC X(15) VALUE SPACES.
       05  FILLER             PIC X(10) VALUE '----------'.
       05  FILLER             PIC X(02) VALUE SPACES.
       05  FILLER             PIC X(13) VALUE '-------------'.
       05  FILLER             PIC X(40) VALUE SPACES.
  *
   01 WS-CURRENT-DATE-DATA.
       05  WS-CURRENT-DATE.
```

```cobol
           10  WS-CURRENT-YEAR          PIC 9(04).
           10  WS-CURRENT-MONTH         PIC 9(02).
           10  WS-CURRENT-DAY           PIC 9(02).
       05  WS-CURRENT-TIME.
           10  WS-CURRENT-HOURS         PIC 9(02).
           10  WS-CURRENT-MINUTE        PIC 9(02).
           10  WS-CURRENT-SECOND        PIC 9(02).
           10  WS-CURRENT-MILLISECONDS  PIC 9(02).
*
*-------------------
 PROCEDURE DIVISION.
*-------------------
 OPEN-FILES.
     OPEN INPUT  ACCT-REC.
     OPEN OUTPUT PRINT-LINE.
*
 WRITE-HEADERS.
     MOVE FUNCTION CURRENT-DATE TO WS-CURRENT-DATE-DATA.
     MOVE WS-CURRENT-YEAR  TO HDR-YR.
     MOVE WS-CURRENT-MONTH TO HDR-MO.
     MOVE WS-CURRENT-DAY   TO HDR-DAY.
     WRITE PRINT-REC FROM HEADER-1.
     WRITE PRINT-REC FROM HEADER-2.
     MOVE SPACES TO PRINT-REC.
     WRITE PRINT-REC AFTER ADVANCING 1 LINES.
     WRITE PRINT-REC FROM HEADER-3.
     WRITE PRINT-REC FROM HEADER-4.
     MOVE SPACES TO PRINT-REC.
     MOVE 1 TO SUB1.
*
 READ-NEXT-RECORD.
     PERFORM READ-RECORD
     PERFORM UNTIL LASTREC = 'Y'
         PERFORM IS-STATE-VIRGINIA
         PERFORM IS-OVERLIMIT
         PERFORM WRITE-RECORD
         PERFORM READ-RECORD
     END-PERFORM
         .
*
 CLOSE-STOP.
     WRITE PRINT-REC FROM CLIENTS-PER-STATE.
     PERFORM WRITE-OVERLIMIT.
     CLOSE ACCT-REC.
     CLOSE PRINT-LINE.
     GOBACK.
*
 READ-RECORD.
```

```cobol
            READ ACCT-REC
                AT END MOVE 'Y' TO LASTREC
            END-READ.
     *
      IS-OVERLIMIT.
            IF ACCT-LIMIT < ACCT-BALANCE THEN
                ADD 1 TO SUB1
                MOVE ACCT-LIMIT TO OL-ACCT-LIMIT(SUB1)
                MOVE ACCT-BALANCE TO OL-ACCT-BALANCE(SUB1)
                MOVE LAST-NAME TO OL-LASTNAME(SUB1)
                MOVE FIRST-NAME TO OL-FIRSTNAME(SUB1)
             END-IF.



      IS-STATE-VIRGINIA.
            IF USA-STATE = 'Virginia' THEN
                ADD 1 TO VIRGINIA-CLIENTS
            END-IF.
     *
      WRITE-OVERLIMIT.
            IF SUB1 = 0 THEN
                MOVE OVERLIMIT-STATUS TO PRINT-REC
                WRITE PRINT-REC
            ELSE
                MOVE 'ACCOUNTS OVERLIMIT' TO OLS-STATUS
                MOVE SUB1 TO  DISP-SUB1
                MOVE DISP-SUB1 TO OLS-ACCTNUM
                MOVE OVERLIMIT-STATUS TO PRINT-REC
                WRITE PRINT-REC
            END-IF.
     *
      WRITE-RECORD.
            MOVE ACCT-NO      TO  ACCT-NO-O.
            MOVE ACCT-LIMIT    TO  ACCT-LIMIT-O.
            MOVE ACCT-BALANCE TO  ACCT-BALANCE-O.
            MOVE LAST-NAME     TO  LAST-NAME-O.
            WRITE PRINT-REC.
     *
```

It was pretty quick to find the error in the source code, there was an issue with the size so you had to extend it beyond 5 to correctly track it.

Mr Terror made the error of setting the OVERLIMIT table DS too low to 5, so I bumped it to 50 cause there are not that many presidents yet to play it safe.

3. I created this project to reflect the common scenarios you will encounter in the industry: fixing other people's code. Many of you have limited or no experience with this in your college career.   What did you think of this experience?

I think it was pretty good cause it made me think over the real world application of how this program should work. I think it helped me think over how it should operate in real life.