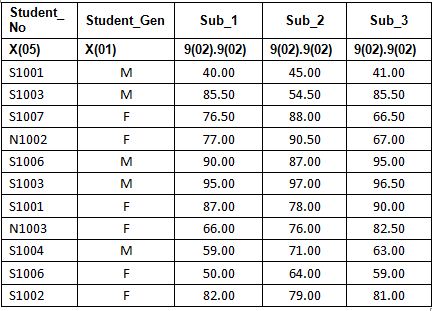
MINI CASE STUDY: **NEW STUDENT**

**STEP1:** **ISPF**

* Allocate a PS dataset with record length 80 with naming convention as below.  
  PS1 - <USERID>.L1L.STUDENT.PS1
* Using the details from below file layout, enter records into the PS1 file as per the instructions given,
  + **Do not enter 1strow** in PS file. 1st row contains header details for reference.
  + **Do not enter 2nd row** in PS file. 2nd row contains layout details for reference.
  + One space filler had to be inserted between each field in the PS file.
  + All alphanumeric data to be entered in **CAPITAL** letters.



**STEP2: JCL**

1.   JCL member naming convension **JA11L<yyy>,** where <yyy> denotes last 3 digits of your user ID. Proper JOB card without any **RESTART** step to be given.

* + Allocatea VSAM ESDS dataset with the following specifications,  
    RECORDSIZE (80, 80)  
    Name: <USERID>.L1L.STUDENT.ESDS

**STEP3:  JCL**

1.  JCL member naming convention **JA21L<yyy>,** where <yyy> denotes last 3 digits of your user ID. Proper JOB card without any **RESTART** step to be given.

* + Using Sort utility perform the below operations on PS1 and store the output in PS2 file. First step in this job should be the DELETE step for PS2 file.

PS1 -> <USERID>.L1L.STUDENT.PS1.

PS2 -> <USERID>.L1L.STUDENT.PS2.

                      i.    Sort records in ascending order based on Student\_No.

                      ii.    Include records only which have Student \_No starting with ‘S’.

                      iii.    Remove duplicates for each Student\_No.

[Ex : If Student No SO441 contains 3 records after sorting, write the first record Alone to output file]

2.      Step1:Split the PS2 file into **two equal** parts(PS3 &PS4). The layout for the two new files will be the same as the PS2 file layout.

PS3 -> <USERID>.L1L.STUDENT.PS3

PS4 -> <USERID>.L1L.STUDENT.PS4

         Ex: If the PS2 file has 6 records , then records1,3 5 should come to PS3 file and the records 2,4,6 should come to PS4 file.

        Step2: Insert a word ‘SPLIT’ at 27th column of both the files. The Job steps have to be stored in **JA31L<yyy>**.Execute Step2, only if Step1 is ended successfully. Use COND codes to achieve this.

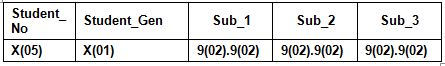
First step should be the delete step for the PS3 &PS4 files.

Sample record:

S1001 M 80.00 65.00 55.00 SPILT

S1006 F 50.00 64.00 59.00 SPILT

*Filler Details: -* One space between each field.

****

**STEP4: COBOL**

Input file to be used in the program        **:**<USERID>.L1L.STUDENT.PS2

**DD name to be used                           : INPSTDPS**

Output file to be used in the program     **:**<USERID>.L1L.STUDENT.ESDS

**DD name to be used                            : OUTSTDES**

Output file to be used in the program     **:**<USERID>.L1L.STUDENT.ERR

**DD name to be used                            : ERRSTDPS**

Output file to be used in the program     **:**<USERID>.L1K.STUDENT.EXCEL

**DD name to be used                            : OUTSTDPS**

*Note: Please use only the****above-mentioned DD names****.*

Write a COBOL program to perform the following,

* + Read records from input PS2 dataset (<USERID>.L1L.STUDENT.PS2) and validate input values for each field in the input file.
    - Check whether STUDENT\_GEN field is not blank.
    - Check whether SUB\_1 is **numeric before and after decimal point**.
    - Check whether SUB\_2 is **numeric before and after decimal point**
    - Check whether SUB\_3 is **numeric before and after decimal point**.
  + *If the input record does not pass through the validations specified above successfully*, then write that input record into error PS file <USERID>.L1L.STUDENT.ERR and start processing the next record.
    - Layout of ERROR file is as below.
    - The first record must be a header record with required spacing between the fields as mentioned below.

https://assessment.cognizant.com/assessment/file.php?file=%2F324%2FLAB1_1L_Nov14%2F1L_3.JPG

***Note : One space filler to be inserted between each field.***

* + - ERR\_FIELD contains the error field name.  
      Ex:If the  Sub\_1 field is not numeric, then the ERR\_FIELD should contain ‘SUB-1’  
      If Student\_Gen is blank,  then the ERR\_FIELD should contain ‘STUDENT-GEN’
  + Do the following processing for every record which has passed through the validations successfully.
    1. Total marks and Percentage calculation
       - **Using a sub-program**, calculate TOT\_MARK and Percentage using below formula    
         TOT\_MARKvalue should be rounded off to two decimal places.  
         **TOT\_MARK=Sub\_1+ Sub\_2 + Sub\_3  
                  TOT\_PER = (TOT\_MARK/ 300) \* 100**

**Note :** Suppress the leading zeroes of TOT\_PER while writing to output file.

* + - Return the values of TOT\_MARK and TOT\_PER to the main program.

* + **Do the following two calculations in the Main program.**

2. Calculation of  Grade and Level

* + - * For Students with TOT\_PER <= 45
        + Write GRADE of corresponding record as ‘D’ and LEVEL as ‘POOR’
      * For Students with TOT\_PER > 45 <=65
        + Write GRADE of corresponding record as ‘C’ and LEVEL as ‘AVERAGE’
      * For Students with TOT\_PER > 65 <=85
        + Write GRADE of corresponding record as ‘B’ and LEVEL as ‘GOOD’
      * For Students with TOT\_PER > 85
        + Write GRADE of corresponding record as ‘A’ and LEVEL as ‘EXCELLENT’

3.   Calculation of  Scholarship Eligible students

* + - * For Students with GRADE as A and TOT\_PER > 90
        + Write SCH\_ELIG of corresponding record as ‘Y’ .
      * For all other records
        + Write SCH\_ELIG of corresponding record as ‘N’ .
* Write output record into ESDS file in the below format.

***https://assessment.cognizant.com/assessment/file.php?file=%2F324%2FLAB1_1L_Nov14%2F1L_4.JPG***

***One space filler to be inserted between each field.***

***TOT\_PER should be displayed after suppressing the leading zeroes.***

***Ex: ‘096’ should be displayed as ‘ 96’***

* Load the fields student No, Student Gender, Total marks, Total percentage, Level into a COBOL one dimensional table. The layout of the table for reference is given below:

https://assessment.cognizant.com/assessment/file.php?file=%2F324%2FLAB1_1L_Nov14%2F1L_5.JPG

***Note: TOT\_PER should be displayed after suppressing the leading zeroes.***

* Find the records with level  = ‘EXCELLENT’ in the COBOL one dimensional table loaded in previous step.
  + - Write all records having Level=’EXCELLENT’ into PS file   
      **<USERID>.L1L.STUDENT.EXCEL**

Note: Layout of the PS files should be same as table layout mentioned above.

***One space filler to be inserted between each field.***

* Compile and run the above COBOL program to achieve the results.

*JCL Member Naming Convention:***JA41L<yyy>**, where <yyy> denotes the last 3 digits of your user ID. Proper JOB card without any **RESTART** step to be given.

**INSTRUCTIONS:**

* Follow the proper coding standards.
* Provide proper error handling routines.
* Place all the final deliverables into the PDS dataset :  **‘<USERID>.<X>.<Y>.PDS’ .**Where X ->  L1 and Y denotes 8 digit Batch name. Example:  Y- CHNMJ001  
                 [Example of **L1 PDS              – TECN001.L1.CHNMJ001.PDS]**                 
   For JCL’s, the member name should be “JA<x>1G<yyy>”  
  Note: Where <x> denotes the member no.(1 for 1st, 2 for 2ndmember) and <yyy> denotes the last 3 digits of your user ID.
  + - JCL's should be named in the member names as suggested in the respective steps.
* For COBOL Program, the member name should be “CA<x>1G<yyy>”  
  Note: Where <x> denotes the member no. (1 for 1st, 2 for 2ndmember) and <yyy> denotes the last 3 digits of your user ID.  
  If there are 2 members for a COBOL (Main program and sub program) created by ID TECN001, the member name should be “CA11G001” and”CA21G001”.

**EXPECTED DELIVERABLES in Mainframe PDS ‘<USERID>.<X>.<Y>.PDS’:**

* JCL for STEP2 and STEP3 in member names suggested in steps.
* COBOL programs in member names suggested.
* RUNJCL for the COBOL program.