**Description**

Create a new program called “**A6-DataValidation**”.

This program will read records from a data file named “**A6.dat**”; perform validation checks on the values of fields in the data records, and write a formatted report output to a file named “**A6-DataValidation.out**”.

You are to design your own report.

Your design should include the following:

* Headings.
* Detail line showing the input record and the appropriate error message(s).
* Include the record number (position in the file) of the input record.
* All errors must be reported for each input record.
* The input record data is to be printed once only for each record, even if the record has multiple errors.
* If the input record is valid then either provide an appropriate message or do not display the valid record at all.
* Only 15 lines per page.
* Totals and counts of records and errors:
  1. Total number of records.
  2. Number of records that are valid.
  3. Number of records that are invalid (have one or more errors).
  4. Number of valid records with code “A”
  5. Number of valid records with code “C”
  6. Number of valid records with code “D”

In your program you may

* use Level 88’s for the edits where you see fit.
* use redefines on either the input or output record as you see fit.

**Input File**

The input record layout is as follows:

Character

Positions Data Item Sample Data

1 Maintenance Code A, C or D

2-4 Part Number 104

5-14 Part Description PEN

15-18 Per Unit Price 25.56

19-24 Vendor Number 345678

**Validation Rules**

Each record is to be checked for each of the following errors.

1. **PART NUMBER**

The PART NUMBER must be numeric,   
if not numeric then print the error message

“**PART NO. NOT NUMERIC”**.

1. **MAINTENANCE CODE**

The only allowable CODES are A, C or D.  
(A is an addition, C is a change and D is a deletion)

The error message is

**“WRONG MAINT CODE”**.

1. **For MAINTENANCE CODE D,** the record does not require any more data, so do not check for any more errors.
2. For all other **MAINTENANCE CODES**, continue to check all the possible errors. This includes records that are in error for **MAINTENANCE CODE** .(e.g., you would continue checking all the remaining possible errors if the code was ‘Q’)
3. **PER UNIT PRICE**

The PER UNIT PRICE must be NUMERIC and must be from $1.00 to $50.00 inclusive. The error message is

**“PRICE IN TROUBLE”**.

This test must be done with **one nested IF instruction**, not two separate IF’s.

Inclusive means that $1 and $50 are OK, but anything higher or lower is an error.

1. **DESCRIPTION #1**

The DESCRIPTION must not be missing (blank).

The error message is

**“DESCRIPTION MISSING”**.

1. **DESCRIPTION #2**

If the DESCRIPTION is present, it must be ALPHABETIC.

The error message is

**“NON ALPHA IN DESC”**.

For #6 and #7, there should be two IF statements for **DESCRIPTION**

1. **VENDOR NUMBER**

The first digit of the VENDOR NUMBER must be a 1, 2 or 3.

The error message is

**“WRONG VENDOR SERIES”**

You will need to use level numbers to break the vendor number into parts to get at the first character. You **MUST** use level 88 for this check.

The VENDOR NUMBER could be blank or alphabetic.

You do not have to check the last 5 characters at all.

**Submission Requirements**

**Turn in a zip or 7z archive containing the Visual Studio (VS) project and solution files to the drop box in your DC Connect Lab Section**

**Marking**

**25** marks for following the programming standards document

**3** marks for report heading, and page headings setup in working-storage, and output on each page of report (you choose the number of lines per page for the report)

**11** marks for detail lines containing record number from input file, original input data, indication of where in the input data the error is, error messages for each type of error, handling multiple errors for one input record without repeating input data in report, total counts for input records, good records, records with error at least one error, Add type records, Change type records, and Delete type records processed

**21** marks for valid coding of the 7 error conditions

**4** marks for use of Level 88’s for edit of Vendor Number

**2** marks for complete VS project submission in zip or 7z file  
**2** marks for correct program name

**2** marks for correct output file name

**Total 70 marks**

**Output Example (yours does not have to be exactly like this example)**

YOUR NAME HERE, ASSIGNMENT 6

ERROR REPORT

Record --------Raw Data--------

Number and Error Messages

2 C040FRYIN-PAN.0185100000

NON ALPHA IN DESC

3 A141WHEELCHAIR1.25237912

PRICE IN TROUBLE

4 A042RING 1130

WRONG VENDOR SERIES

7 9060SINK 9500777777

WRONG MAINT. CODE

PRICE IN TROUBLE

WRONG VENDOR SERIES

----------- Etc., etc., etc... ----------

INPUT - 37

GOOD - 99

IN ERROR – 99

GOOD ADDS – 99

GOOD CHANGES – 99

GOOD DELETES – 99