Level 2 Create software components using COBOL (7266/7267-203)

www.cityandguilds.com/e-quals07
October 2008
Version 1.0

e-Quals
Assignment guide for Candidates
Assignment C

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Introduction – Information for Candidates

About this document

This assignment comprises part of the assessment for Level 2 Create software components using COBOL (7266/7267-203).

Health and safety

You are asked to consider the importance of safe working practices at all times.

You are responsible for maintaining the safety of others as well as your own. Anyone behaving in an unsafe fashion will be stopped and a suitable warning given. You will **not** be allowed to continue with an assignment if you compromise any of the Health and Safety requirements. This may seem rather strict but, apart from the potentially unpleasant consequences, you must acquire the habits required for the workplace.

Time allowance

The recommended time allowance for this assignment is **4 hours**.

Level 2 Create software components using COBOL (7266/7267-203)

Candidate instructions

Time allowance: 4 hours

Assignment set up:

This assignment is made up of **two** tasks

- Task A - Create software to validate input, produce a report and an output file
- Task B - Check presentation criteria

Scenario

You work as a software developer for Delta Systems who develop software for clients. You have been asked to create software for a company that provides a yearly service for alarm systems. The software is to validate data that is entered via the keyboard, save the valid data into a file and print an error report for invalid data.

Task A

In this task you will validate the customer records which are entered via the keyboard, produce an error report and create a sequential file of valid records.

The table below shows the fields in the customer records and the validation required.

Name	Type	Length	Validation
Customer Number	Numeric except that last digit may be an X	6	Modulus 11 check digit Use 999999 to terminate the program
First Name	Alphanumeric	20	Not spaces
Last Name	Alphanumeric	20	Not spaces
Start Date	Alphanumeric	10 (DD/MM/YYYY)	Days and month should be fully checked
System	Alphabetic	1	"P" or "F"
Service Month	Numeric	2	Month in format MM
Contract Type	Alphabetic	1	"P" or "C"

1 Create the DISPLAY screen to allow input of the customer records. Use REDEFINES to create the ACCEPT screen.

2 Write the code to validate the input data as shown in the table above.
The modulus 11 check digit for the customer number must be checked by evaluating the following formula:
((A*6) + (B*5) + (C*4) + (D*3) + (E*2) + (F*1)) / 11
Where A is the highest order digit, B the next and so on. The customer number is valid if the division by 11 gives no remainder. Note that an X in the rightmost position is counted as 10.

3 Write the code to output valid records to a sequential file in the same format as shown in the table above except that the Start Date should be output as numeric in the format ddmmyyyy.

4 Design a layout for a validation report and then write the code to produce the report. The report is to show any input records which contain errors. The report must contain the following:
- a heading at the top of each page which includes a page number
- all the fields with an indication for any field which contains an error
- 13 customer records per page.

5 At the end of the validation report the following totals are to be provided
- total number of records in error
- total number of valid records
- total number of input records.

6 Provide evidence that the program complies with the specification by producing validation reports and file prints.

7 Print a listing of the code.

Task B

In this task you should follow the criteria below when producing your work.

1 The program conforms to the design specification.

2 The program uses the most appropriate data type(s).

3 Meaningful names are used when declaring variables.

4 The program syntax is consistently indented to aid readability.

5 The program is commented.

Notes

- Candidates should produce the following for their assessor:
    - printed program listing
    - validation report layout
    - evidence that the program works correctly.
- At the conclusion of this assignment, hand all paperwork and removable storage media to the test supervisor.
- Ensure that your name is on the removable storage media and all documentation.
- If the assignment is taken over more than one period, all removable storage media and paperwork must be returned to the test supervisor at the end of each sitting.

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