Level 3 Develop software using COBOL (7266/7267-303)

e-Quals
Assignment guide for Candidates
Assignment D

www.cityandguilds.com/e-quals07
November 2008
Version 2.0

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Introduction – Information for Candidates

About this document

This assignment comprises part of the assessment for Level 3 Develop software using COBOL (7266/7267-303).

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 **6 hours**.

Level 3 Develop software using COBOL (7266/7267-303)
Candidate instructions

Time allowance: 6 hours

Assignment set up:

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

- Task A - provides a detailed design specification that should be followed by candidates when developing their program
- Task B - requires the candidate to test the program that they have created and provide documentation

Scenario

You work as a Software Developer for EduTech Software a company that designs and creates software for clients. You have been asked to design, create and test a program to provide a list of students on courses for a private training company that supplies training courses to customers.

Task A

In this task you are required to design and create a program from the design details given.

1 The records are to be held in an indexed sequential file where the key is the Student number and the fields are as shown below:

Name	Type	Length
Student number	Alphanumeric	4
First Name	Alphanumeric	20
Last Name	Alphanumeric	20
Birth Date	Numeric	8
Course Code	Alphanumeric	5 (999-X)

The Course Code field is in the format 999-X where 9 represents a digit and X represents the price code Y, P, F, M, T or R.

2 The program should display a menu similar to the following:

MENU
1 Add a record
2 Amend a record
3 Delete a record
4 Print student lists
5 QUIT

3 An EVALUATE statement must be used for the menu option input.

4 The INVALID KEY clause must be used when accessing the indexed sequential file.

5 You will be supplied with a class which contains a method to validate the input date. You should call the method from your program to validate the date.

6 Arrays must be used to hold the data for the course prices as shown below:

Price Code	Course Price
Y	1299
P	599
F	1599
M	2599
T	1899
R	799

7 Search the price code array to find the Price Code and then use the Course Price when producing the student list.

8 Use a STRING statement to join the First Name and Last Name with only one space between them when inserted on the student list.

9 Use an UNSTRING statement to separate the price code character from the Course Code field.

10 The printed output for the student list must:
- include a heading and today's date
- include page numbers on each page
- include on each detail line the student number, first name, last name, course code and birth date plus the price for the course
    - a 12.5% discount is to be applied to the course price for student's who are 18 or under. The discount should be ROUNDED before being deducted from the course price
- total the amount for all the students and use the ON SIZE ERROR clause for the calculation. Display an error message if an error is found.

11 Design the screen and print layouts for the program.

12 Create the design for the program.

13 Write the code to implement the design.

Task B

In this task you are required to test the program you have created and provide documentation.

1 Prepare a test plan, test data and expected results.

2 Test the software; check the expected results against the actual results keeping a log for each test which identifies any discrepancies between actual and expected results and records any amendments made to resolve any logical or run-time errors found.

3 Provide evidence that the program complies with the specification eg printed output.

4 Print a listing of the code.

Note

- Candidates should produce the following for their assessor:
    - design documentation
    - printed program listing
    - test plan, test data and expected results and test log
    - evidence of testing eg printed output
- 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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