CS4092: Project 2 Outline (10%) – Multiple Choice Practice Tests
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Overview

You are required to develop a Java application to provide the functionality outlined herein to the end user.   Your application should be menu-driven (character-based **or** graphical user interface-based). The user should be permitted to repeatedly choose options from your menu until such time as the user selects the option to exit your application. You are expected to (i) validate user input and (ii) make appropriate use of methods.

You are required to document your source code such that the input to, the processing performed by as well as the output from each programmer-defined method is detailed.

State clearly any assumptions you make.
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Functionality

A registered user should be afforded the opportunity of taking Multiple Choice Practice Tests (MCPTs). Details of registered users are held on file (_format of this file is_ username,password). When your application is launched a person enters their username and password to begin a test. A person is allowed to have three attempts at most to supply a valid username and password. When a valid username and password are supplied the user is presented with a list of Java topics. The user selects a topic on which he/she is then presented with Multiple Choice Questions (MCQs) on same.   A topic should only be included in this list if there is at least one associated MCQ.

A MCPT should comprise at most ten questions which should be chosen at random from the available list of questions on the topic. A topic may have less that ten questions associated with it.

Since the objective of the application is to improve a person's understanding of topics, one question should be presented at an instance. From the list of four possible answers, if the user selects the correct one he/she is then moved onto the next question otherwise, he/she is presented with details of the correct answer along with an explanation. At the end of a MCPT the user is informed of his/her result for this MCPT and his/her overall performance to date (not only of this interaction but of any previous interactions with the application). Once a MCPT is complete the user is returned to the list of topics to select another or exit.

All information concerning topics, questions, answers and explanations should be stored in one or more data files.
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Deadline for Submission

All material must be submitted by 13h00 on Friday of Week 6. Please refer to the document titled CS4092: Project Submission Documentation for specific deliverable instructions. Failure to adhere to these instructions could result in your work attaining zero marks.
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