Core Java Assignment

# Problem Statement

Requirements:

1. Store the information about following courses in Java (in-memory) using POJOs and Collections framework. Consider the following courses offered to the students.

| Course Id | Name | Difficulty level | Duration |
| --- | --- | --- | --- |
| C1 | Java basics | Low | 3 hrs |
| C2 | Advanced Java Tutorial | Medium | 4 hrs |
| C3 | SQL developers course | Medium | 4 hrs |
| C4 | DevOps Tutorial | High | 5 hrs |

1. Similarly store information about students as follows.

| Student Id | Name | Login password |
| --- | --- | --- |
| S101 | John | abcd |
| S102 | Daniel | mnop |

1. Develop a **Console application in Java** for course enrollment and tracking system with following functionalities.

* After starting the application, students should land on the home page where they can login using their name and password. Students should be allowed to login only if the entered password matches.
* After successful login, provide a list of available course details to students. Also prompt the following options to students to select their next intended action.
  1. Display all courses
  2. View enrolled courses
  3. Enroll in a new course
  4. Clock-in time
  5. View Summary
  6. Exit

Students should press a,b,c,d,e or f respectively for performing the above actions. After completing any of the above actions except ‘Exit’’ the same options should be displayed and the cycle should be repeated until the student chooses to exit.   
The functionality for each of the above options is explained in detail below.

* Display all courses  
  Display the list of all courses in the tabular format as given above in Requirements point number 1.

| Course Id | Name | Difficulty level | Duration |
| --- | --- | --- | --- |
| C1 | Java basics | Low | 3 hrs |
| C2 | Advanced Java Tutorial | Medium | 4 hrs |
| C3 | SQL developers course | Medium | 4 hrs |
| C4 | DevOps Tutorial | High | 5 hrs |

* View enrolled courses  
  Display the information about courses in which the logged in student is enrolled in the following format.  
    
  Student name: John  
  Student Id: S101

| Course Id | Course Name | Enrollment date |
| --- | --- | --- |
| C1 | Java basics | 22 Jan 2022 |

Note: Table border and formatting is not mandatory. A simple text format should suffice.

* Enroll in a new course:  
  Student enters the id of the course in which he/she wants to enroll. The console output should be as follows.  
  *NOTE: Perform the necessary backend actions in Java to complete the enrollment.*   
    
  Enter course Id:  
  C1 <This is input from the student>  
  You are successfully enrolled in Java Basics!
* Clock-in time  
  Add the amount of time spent to an enrolled course. Following is the example of console output.  
  *NOTE: Perform the necessary backend actions in Java to complete the enrollment.*   
    
  Enter course Id:   
  C1 <This is input from the student>  
  Enter time spent:   
  2 <This is input from the student>  
  You have successfully clocked-in 2 hrs to Java Basics!
* View Summary  
  This option should display the summary of enrolled courses and the status of completion in the following format.  
    
  Student name: John  
  Student Id: S101

| Course Id | Course Name | Duration | Time spent | Completion % |
| --- | --- | --- | --- | --- |
| C1 | Java Basics | 3 | 1 | 33.33 |
| C2 | Advanced Java Tutorial | 4 | 2 | 50 |

Note: Table border and formatting is not mandatory. A simple text format should suffice.

* Exit:  
  Perform logout action for the user. Prompt the login for the new user.