

Online 4: Introduction to Java

Total marks: 10

Section: C1/C2

Time: 35 minutes

You will implement a simple **Student Score and Penalty Calculation System** using Java. The number of **students** and **quizzes** are provided as **command line arguments**.

Requirements:

1. **Classes to Implement:** Implement the following classes:
 - Quiz.java
 - Student.java
 - Main.java
2. **Quiz Input:** Take details of multiple quizzes, including:
 - a. Quiz title (String)
 - b. Penalty per wrong answer (double)
3. **Member Input:** Collect student information, including:
 - Student name (String)
 - Number of wrong answers for each plan (int)

Ensure that:

- Wrong answers must be greater than or equal to 0
- If invalid input is given, take the input again

4. **Penalty Calculation:** Penalty for each quiz is calculated as:

$$\text{Penalty} = \text{wrong_answers} \times \text{penalty_per_wrong}$$

5. **Total Penalty:** Compute the **total penalty** for each student by summing penalties from all quizzes.

Note:

- Penalty calculation must be done inside the **Student** class
- Use appropriate getters and setters to access and modify class fields

6. **User Interaction:** After taking all inputs, the user can enter the following commands:

- **display X:** Shows details for student X. Details include: *student name, penalty for each quiz, total penalty*. If the X is “**all**”, display details for all members.

- **delete X:** Deletes the information for student X. You may use a new array to store the updated member information.
- **exit:** Terminates the program.

7. Additional Notes

- Use arrays only (do not use ArrayList or other collections)
- The Main class should only handle user input and command processing
- All calculations must be done using basic Java constructs (loops, arrays, conditionals)

Submission

Create a directory with your ID and include only the .java files. For example:

```
2405072/
├── Quiz.java
├── Student.java
└── Main.java
```

Submit the folder as:

2405072.zip