

**COMSATS UNIVERSITY ISLAMABAD,
ABBOTTABAD CAMPUS**



SDA
LAB-ASSIGNMENT # 1

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Reg No: FA22-BSE-051.

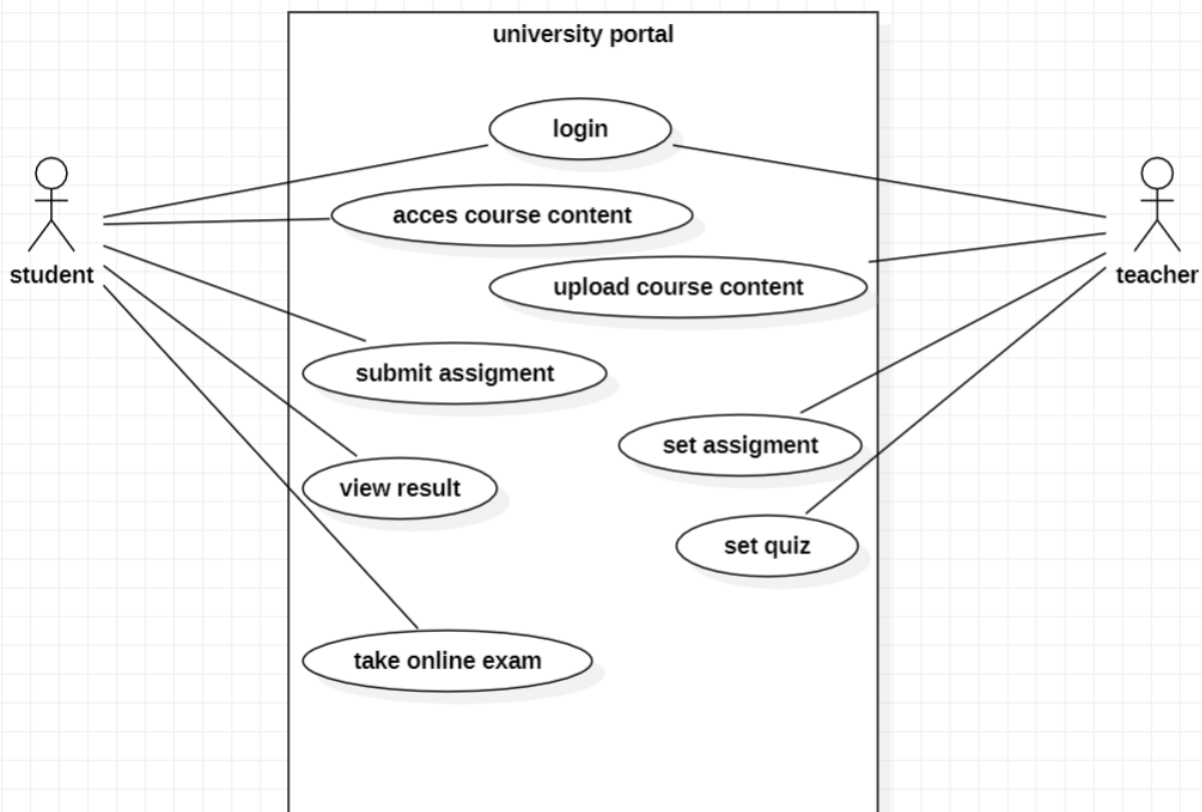
Brief Introduction to Case Study:

The university portal application enables instructors to manage various aspects of course administration. It offers four primary functionalities: taking attendance, setting assignments, uploading course content, and setting quizzes.

For this case study, the focus is on the **Set Quiz** functionality. In this functionality, the instructor can create a multiple-choice quiz by specifying the number of questions, inputting each question along with answer options, and marking the correct answer for each question. Once completed, the quiz is saved to a file, providing a record of the questions and answers.

The **Set Quiz** functionality showcases how instructors can create quiz content dynamically and save it for future reference, supporting both educational objectives and efficient course management.

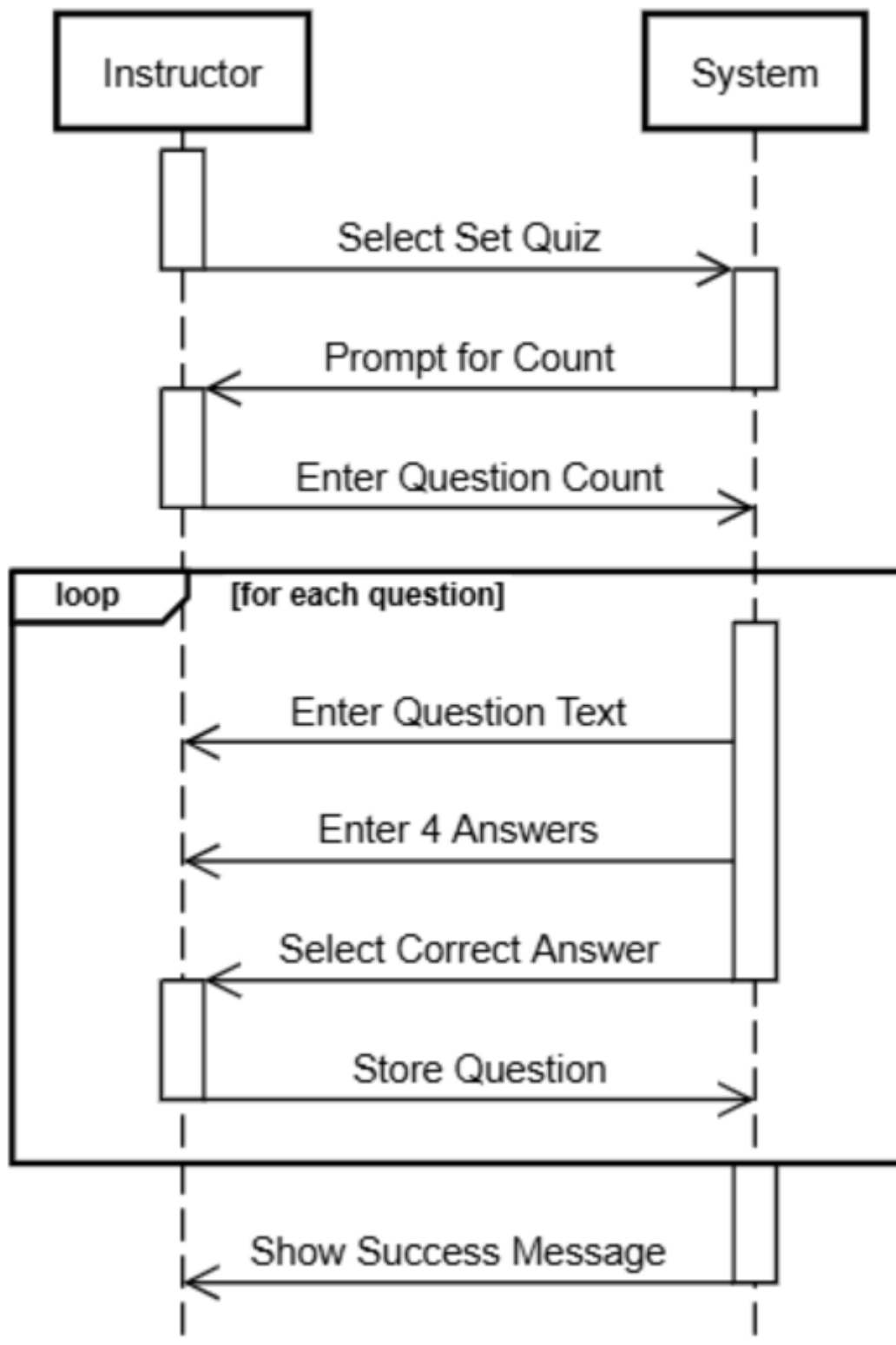
Use Case Diagram



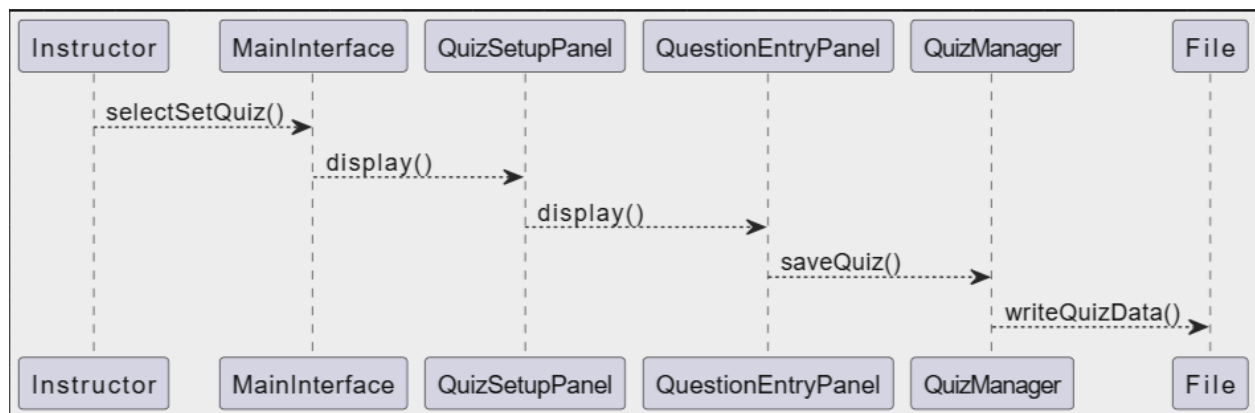
Fully Dress Use Case: Set Quiz

Use Case Attribute	Description
Use Case Name	Set Quiz
Primary Actor	Instructor
Stakeholders and Interests	Instructor (wants to create and save quizzes), Students (receive quizzes as assessments)
Preconditions	The instructor must be logged into the university portal.
Postconditions	A quiz is saved with questions, answers, and the correct answer marked.
Main Success Scenario	1. Instructor selects "Set Quiz" from the main menu. 2. System prompts for the number of questions. 3. Instructor inputs the number of questions. 4. For each question: a. Instructor inputs the question text and four answer options. b. Instructor marks the correct answer. 5. System saves the quiz to a file. 6. System displays a success message.
Extensions	4a. If instructor leaves an answer blank, system prompts to fill it before proceeding.
Special Requirements	None.
Technology and Data Variations	Quiz data saved in a text file.

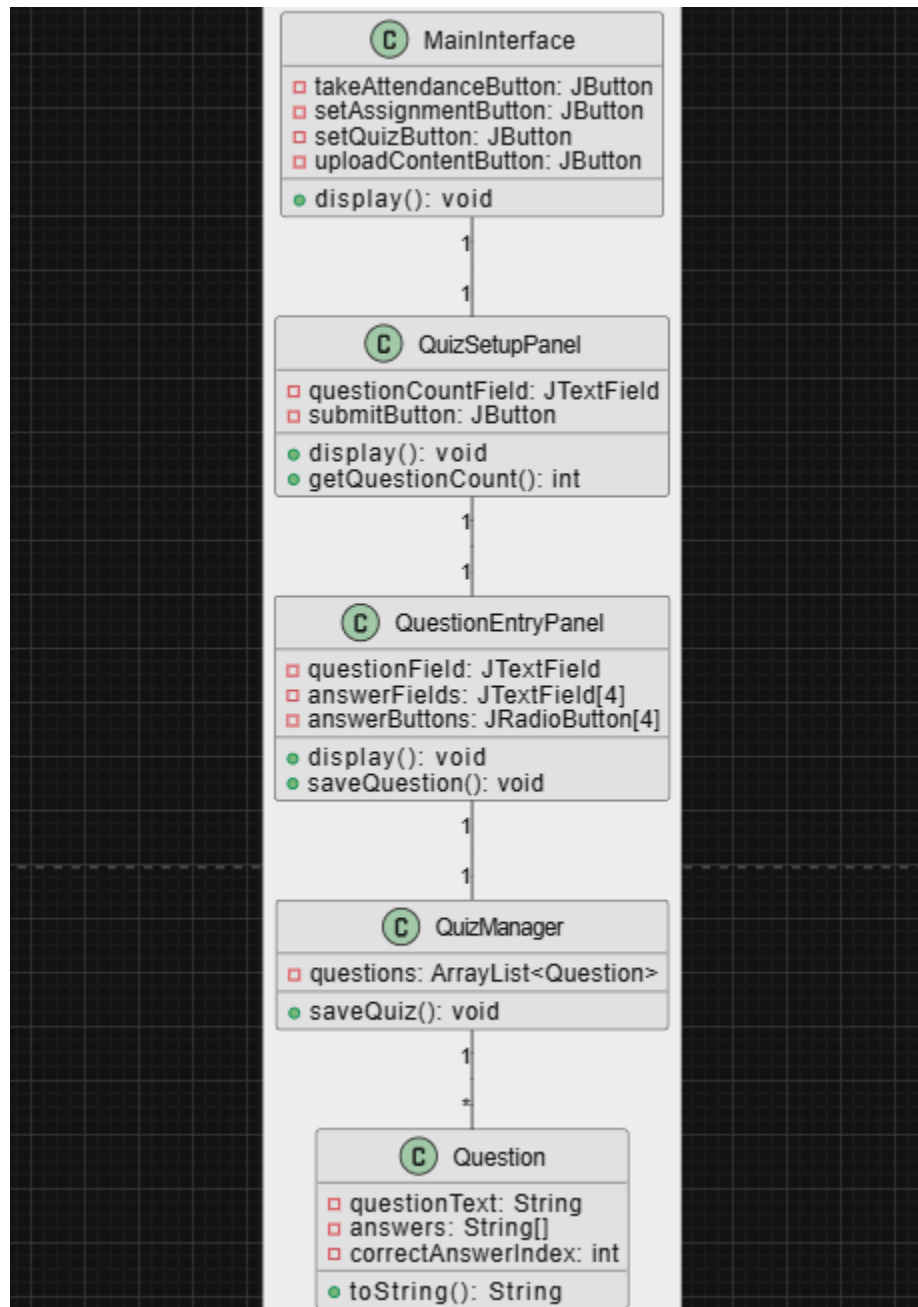
SSD of Use Case: Set Quiz



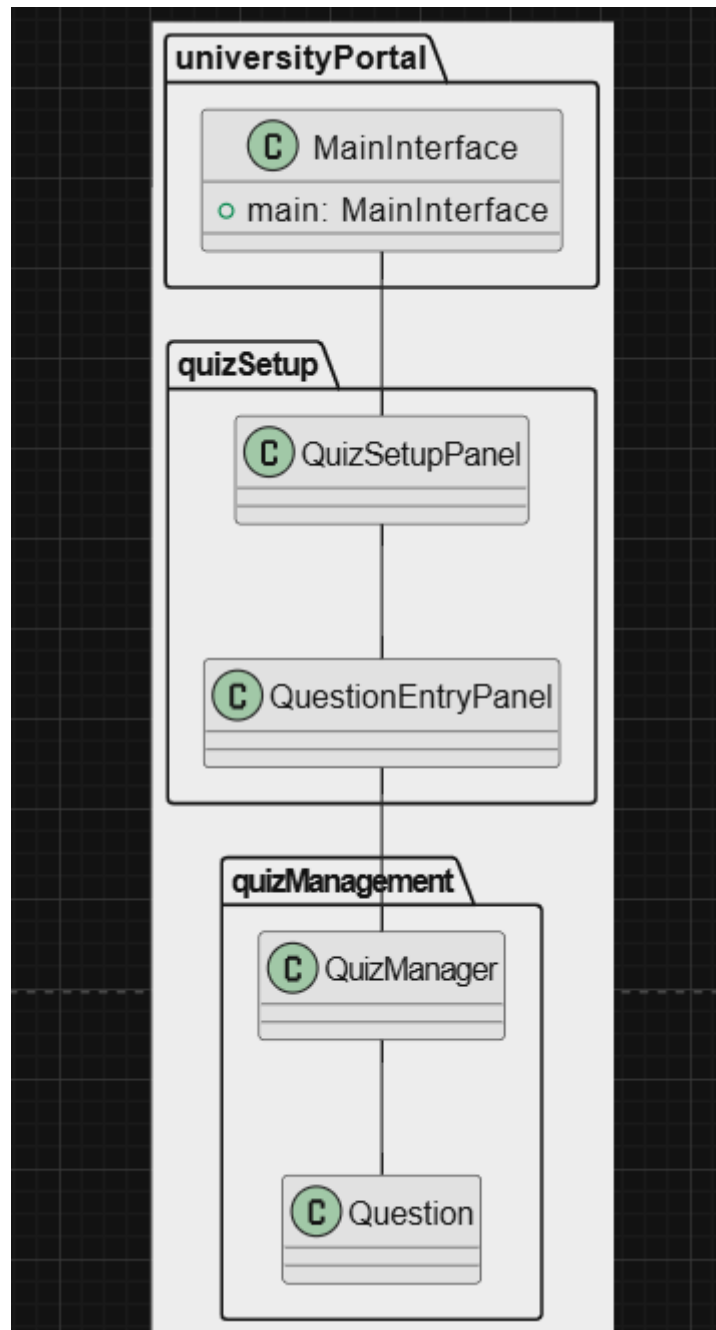
Communication Diagram



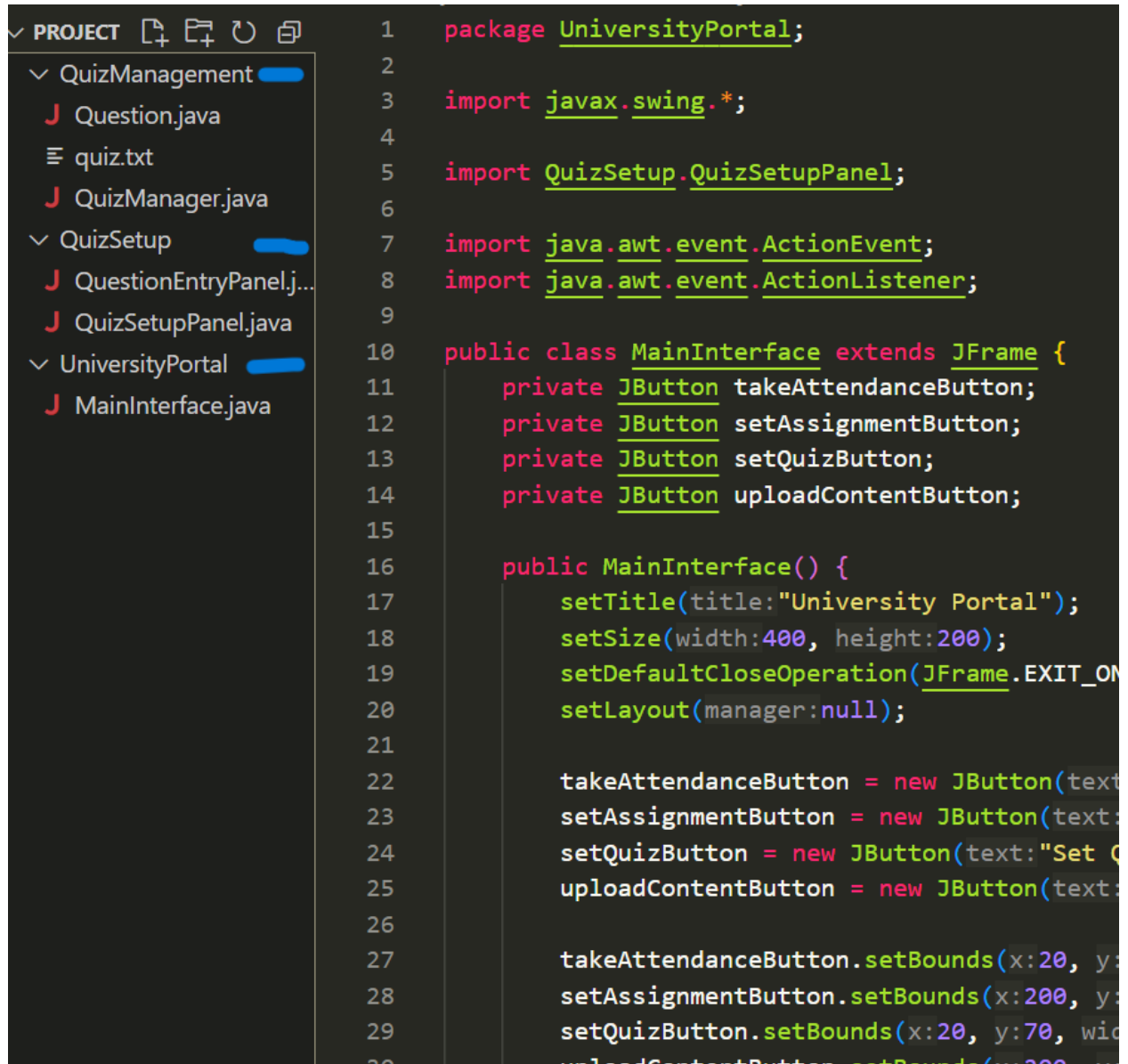
Class Diagram



Package Diagram



Packages with .java files



The image shows a screenshot of an IDE with a project structure on the left and a Java code file on the right. The project structure is as follows:

- PROJECT
 - QuizManagement
 - Question.java
 - quiz.txt
 - QuizManager.java
 - QuizSetup
 - QuestionEntryPanel.j...
 - QuizSetupPanel.java
 - UniversityPortal
 - MainInterface.java

The code file, `MainInterface.java`, contains the following code:

```
1 package UniversityPortal;
2
3 import javax.swing.*;
4
5 import QuizSetup.QuizSetupPanel;
6
7 import java.awt.event.ActionEvent;
8 import java.awt.event.ActionListener;
9
10 public class MainInterface extends JFrame {
11     private JButton takeAttendanceButton;
12     private JButton setAssignmentButton;
13     private JButton setQuizButton;
14     private JButton uploadContentButton;
15
16     public MainInterface() {
17         setTitle(title:"University Portal");
18         setSize(width:400, height:200);
19         setDefaultCloseOperation(JFrame.EXIT_ON
20         setLayout(manager:null);
21
22         takeAttendanceButton = new JButton(text
23         setAssignmentButton = new JButton(text:
24         setQuizButton = new JButton(text:"Set Q
25         uploadContentButton = new JButton(text:
26
27         takeAttendanceButton.setBounds(x:20, y:
28         setAssignmentButton.setBounds(x:200, y:
29         setQuizButton.setBounds(x:20, y:70, wid
30         uploadContentButton.setBounds(x:200, y:
```