

# **OOP Project**



**Department of Computer Science**  
**Bahria University, Islamabad**

**Group Members:**

**Muhammad Anas Khan Farooq (01-135242-040)**

**Fahad Nawaz (01-135242-021)**

**Submitted To:**

**Dr. Saba Mehmood**

**Program: BS(IT)2B**

# **Assignment 3**

**Title:**

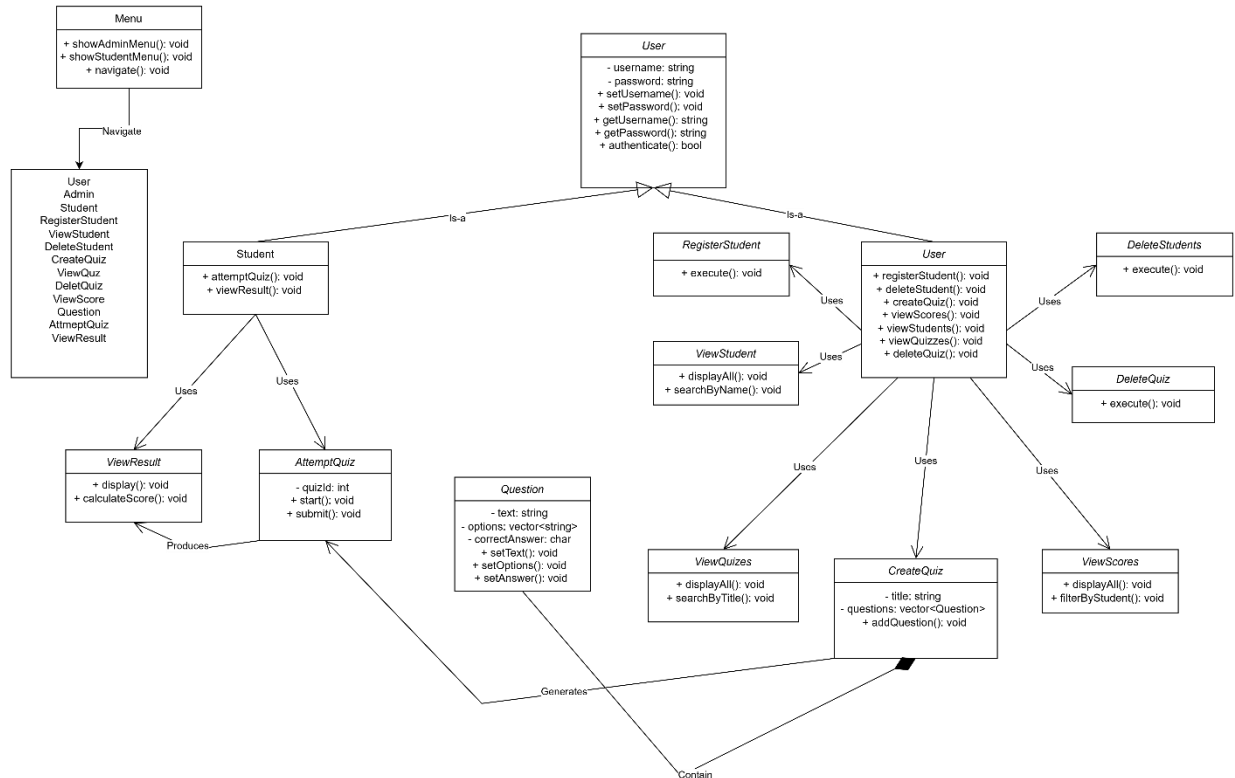
## **Quiz Management System**

**1. List down the classes identified from your scenario.**

**List Of Classes:**

1. User
2. Admin
3. Student
4. Menu
5. RegisterStudent
6. ViewStudents
7. DeleteStudent
8. CreateQuiz
9. ViewQuizes
- 10.DeleteQuiz
- 11.ViewScores
- 12.AttemptQuiz
- 13.ViewResult
- 14.Question

**2. Make Class diagram of those classes showing their relationship.**



Note: Menu Class Navigate To All Major Class.

### 3. Include main member functions and datamembers

#### User (Base Class)

**Data Members:** Menu navigates to all major classes

username, password

**Methods:**

login(), logout()

#### Admin (Inherits User)

**Data Members:**

adminId

**Methods:**

registerStudent(), deleteStudent(), createQuiz(), viewScores(), viewStudents(), viewQuizzes(), deleteQuiz()

#### Student (Inherits User)

**Data Members:**

studentId

**Methods:**

attemptQuiz(), viewResult()

**RegisterStudent****Methods:**

execute()

**DeleteStudent****Methods:**

execute()

**CreateQuiz****Data Members:**

title, questions (list)

**Methods:**

addQuestion()

**ViewStudents****Methods:**

displayAll(), searchByName()

**AttemptQuiz****Data Members:**

quizId

**Methods:**

start(), submit()

**Question****Data Members:**

text, options, correctAnswer

**Methods:**

setText(), setOptions(), setAnswer()

**Menu****Methods:**

showAdminMenu(), showStudentMenu(), navigate()

**Other Classes:**

**ViewScores:** displayAll(), filterByStudent()

**ViewResult:** display(), calculateScore()

**DeleteQuiz:** execute()

**ViewQuizzes:** displayAll(), searchByTitle()

Key Relationships Shown:

1. **Inheritance:**

Admin → User

Student → User

2. **Associations:**

Admin **uses** RegisterStudent, DeleteStudent, ViewStudents

Student **uses** AttemptQuiz, ViewResult

CreateQuiz **contains** Question

Menu **navigates to** all major classes

3. **Composition:**

CreateQuiz owns a collection of Question objects