MANAGEMENT INFORMATION SYSTEM

LAB EXPERIMENT:6

6) Draw a Use case diagram to model for a quiz system. A user can request a quiz for the system. The system picks a set of questions from its database, and composes them together to make a quiz. It rates the user's answers and gives hints if the user requests it. In addition to users, we also have helpers who provide questions and hints. And also, administrators who must certify questions to make sure they are not too trivial, and that they are correct.

Aim:

To develop a **Use Case Diagram** for a **Quiz System**, illustrating the interactions between users, helpers, and administrators.

PROCEDURE:

Step 1: Identify Actors

Actors represent users or external entities interacting with the system. From the problem statement, we have:

1. **User** – Takes quizzes, answers questions, and requests hints.
2. **Helper** – Provides questions and hints.
3. **Administrator** – Certifies questions before they are used.
4. **System** – The quiz system itself, which automates the quiz process.

Step 2: Identify Use Cases

Use Cases represent functionalities the system provides. Based on the description, the key use cases are:

User Actions

- **Request Quiz** – The user requests a new quiz.
- **Answer Questions** – The user provides answers.
- **Request Hint** – The user requests hints for difficult questions.

System Actions

- **Compose Quiz** – The system picks questions and creates a quiz.
- **Rate Answers** – The system evaluates the user's answers.

Helper Actions

- **Provide Questions** – Helpers contribute questions to the database.
- **Provide Hints** – Helpers contribute hints for questions.

Administrator Actions

- **Certify Questions** – The administrator verifies questions for correctness and difficulty level.

Step 3: Define Relationships Between Actors and Use Cases

1. **User** → (Request Quiz) → **System**
2. **User** → (Answer Questions) → **System**
3. **User** → (Request Hint) → **System**
4. **System** → (Compose Quiz) → **Database** (Dependency)
5. **System** → (Rate Answers) → **User**
6. **Helper** → (Provide Questions) → **System**
7. **Helper** → (Provide Hints) → **System**
8. **Administrator** → (Certify Questions) → **System**

Step 4: Draw the Use Case Diagram

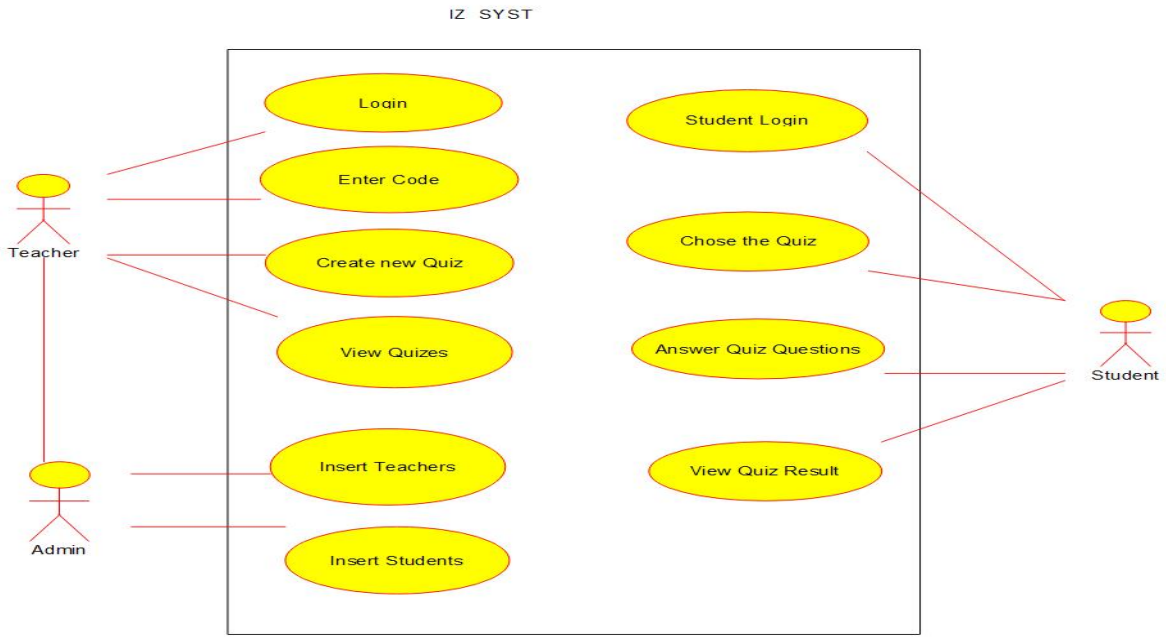
Use a UML tool like **Lucidchart, Draw.io, StarUML, or Microsoft Visio** to create the diagram. Follow these steps:

1. Draw an oval for each **use case** (e.g., "Request Quiz," "Answer Questions").
2. Draw **actors** as stick figures (User, Helper, Administrator).
3. Connect actors to relevant use cases using **lines**.
4. Place the **system boundary box** around the use cases.

Step 5: Review and Validate the Diagram

- Ensure that all actors and their use cases are correctly connected.
- Verify that each use case represents a meaningful function of the system.
- Check if **relationships** such as "includes" or "extends" are necessary.

Output:



Use case diagram

Result:

A **UML Use Case Diagram** will be created based on the above design.