**ANP-7971**

AF0400809

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Database Design for

Online Exam System

### **ONLINE EXAM SYSTEM**

The online exam system database is used to conduct exams in online through some conditions.This database contains five main tables: **Users**, **Exams**, **Questions**, **Options**, and **Results**. Each table serves a distinct purpose in managing users, exams, questions, answer options, and results.

#### 1. ****Users Table****

* **Purpose**: To store information about users (students, instructors, or admins).
* **Columns**:
  + user\_id: A unique identifier for each user (Primary Key).
  + username: The user's name, which must be unique and cannot be null.
  + password: The user's password, which is required for authentication.

#### 2. ****Exams Table****

* **Purpose**: To manage details about different exams.
* **Columns**:
  + exam\_id: A unique identifier for each exam (Primary Key).
  + exam\_name: The name of the exam, which cannot be null.
  + duration: The duration of the exam in minutes, which cannot be null.

#### 3. ****Questions Table****

* **Purpose**: To store questions associated with specific exams.
* **Columns**:
  + question\_id: A unique identifier for each question (Primary Key).
  + exam\_id: A foreign key that links the question to a specific exam.
  + question\_text: The text of the question, which cannot be null.
  + correct\_option\_id: An identifier for the correct option, which can be used for auto-grading.

#### 4. ****Options Table****

* **Purpose**: To store multiple-choice answer options for questions.
* **Columns**:
  + option\_id: A unique identifier for each option (Primary Key).
  + question\_id: A foreign key that links the option to a specific question.
  + option\_text: The text of the option, which cannot be null.

#### 5. ****Results Table****

* **Purpose**: To store results of exams taken by users.
* **Columns**:
  + result\_id: A unique identifier for each result entry (Primary Key).
  + user\_id: A foreign key that links the result to a specific user.
  + exam\_id: A foreign key that links the result to a specific exam.

### Relationships

* **Users to Results**: A one-to-many relationship where one user can have multiple exam results.
* **Exams to Questions**: A one-to-many relationship where one exam can contain multiple questions.
* **Questions to Options**: A one-to-many relationship where each question can have multiple answer options.
* **Exams to Results**: A one-to-many relationship where one exam can have multiple results recorded for different users.

have

have

have

Checks result

option\_text

Option\_id

Correct\_option\_id

exam\_id

question\_text

Exam\_name

exam\_id

duration

question\_id

**options**

**questions**

**exams**

**Users**

**results**

Exam\_id

User\_id

result\_id

question\_id

password

username

User\_id

