

## Project 1.

### Title: Examination Management System.

#### Introduction:

Examination management system is digitalized exam management system. This application will have two modules.

1. Admin
2. Students

Both roles will have different functionalities. Admin will be able to create exam and add, update, delete and fetch questions from database as well as Admin could get Report of All student and single student by providing respective roll number.

Students can login with their credentials and attempt test. After completion of test students can get their score card in text file.

In order to fulfil above requirement, you must consider following instructions.

Expected console interface for above application should look like :

First Interface of application:

-----Please Select Your Role-----

1. Admin
2. Student
0. Exit

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Enter Your choice:

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Let's consider, User input 1 as admin. First Admin will have to provide credentials then Admin will get following options to interact with application.

Admin and Students login should be done from tables in database only.

admin_id – pk-int-identity
username – varchar(20)
password – varchar(20)

First interface for Admin:

-----Admin Operation-----

1. Create Exam
2. Delete Exam
3. Update Exam
4. Get all Exam
5. Get Exam by ID
6. Add student
7. Delete Student
8. Update student
9. Get All students List
10. Get student by Roll Number
11. Get Consolidated Students Report card
12. Get Single student report card by ID
13. Add Question in Exam
14. Update Question in Exam
15. Delete Question from exam
16. Display all Questions from Exam.
0. Exit

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Enter Your choice.

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Workflow for Admin: Admin will have to create a exam first and then by using exam ID, admin will have to add questions for that respective exam.

For achieving this you will have to create two tables. Exam and Questions.

Exam table

examID – pk -int-identity
examName- varchar(20)
Created_by - varchar(20)
subject-varchar(20)
description - varchar(20)

Questions table

q_id – pk -int
que – varchar(max)
examID -fk-int
Opt1-
Opt2
Opt3
Correct_ans

Here is explanation for each choice given below:

1. **Create Exam** → If admin's choice will be 1 then admin will have to input the data for all columns specified in Exam table.  
Note → In exam table, examID will be primary key which will be implemented as auto incremented.
2. **Delete Exam** → If admin's choice will be 2 then admin can delete exam from delete table by providing examID.
3. **Update Exam** → If choice will be 3 then admin can update exam's details.
4. If choice will be 4 then Admin can see list of all exams are present in Exam table
5. If Choice will be 5 then admin can see single exam details by providing examID.
6. If choice will be 6 then Admin will have to input students' details. For student's details you will have to create following table.

studentRollNumber pk int identity
studentFirstName varchar(20)
studentLastName varchar(20)
studentGender varchar(10)
studentPassword varchar(20)
studentAddress varchar(50)
studentEmail varchar(20)
studentCourse varchar(20)

7. If choice will be 7 then admin can delete student's entry by providing student's roll number.
8. If choice will be 8 then by using student's roll number, student's information can be updated.
9. If choice will be 9 then admin can see list of all students.
10. If choice will be 10 then by providing student's roll number admin can see single student's details.
11. If choice will be 11 then admin could see consolidated scores of all students. This data should come from ReportCard table.
12. If choice will be 12 then admin will input students' roll number, then And can get report card for single student.

Table should be like given below. This table will get filled after students complete their test. ReportCard

reportCardId pk int identity
studentRollNumber fk int
Score int
dateOfExam

- 13.If choice will be 13 then admin can add questions in questions table where examID will be foreign key. Consider exam table specified above and based on that admin will input those many fields.
14. If choice will be 14 then admin can update existing question by providing questionId.
15. If choice will be 15 then by providing questionID then admin can delete existing question by providing questionID.
- 16.If Choice will be 16 then admin can view all questions in exam table.

Role 2.

-----Please Select Your Role-----

1. Admin
2. Student
0. Exit

-----  
Enter Your choice:

-----  
In this case, if choice will be 2 then Student's Login screen will appear.

-----Student-----

Please enter your registered email:

Please enter password provided by admin:

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If credential will be correct then student will login successfully and see given below menu.

-----Student Dashboard-----

1. Go For test
2. See Your report card
0. Exit

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Enter Your choice:

If choice will be 1. Then student will start test. You can set timer for test. From question table you will have to check correct answer. Based on correct answers, score card will be generated and ReportCard table will be updated.

If choice will be 2 then student will get their own report card. This report card will be generated from ReportCard table.

Instructions:

1. You will have to follow layered architecture.
2. Abstraction should be implemented in project
3. Encapsulation must be implemented.
4. Proper comments and indentation are expected.
5. All tables requirement mentioned in problem statement.
6. For inputting string value try to provide validation using string operations.