



## Test Sheet for all queries

### Queries:

Test Query	Result	Comment
<code>SELECT * FROM Admin.Topics;</code>	Empty result set	The <code>Admin.Topics</code> table is created successfully, but no data has been inserted yet.
<code>SELECT * FROM Admin.Branches;</code>	Empty result set	The <code>Admin.Branches</code> table is created successfully, but no data has been inserted yet.
<code>SELECT * FROM Admin.Tracks;</code>	Empty result set	The <code>Admin.Tracks</code> table is created successfully, but no data has been inserted yet.
<code>SELECT * FROM Admin.Intakes;</code>	Empty result set	The <code>Admin.Intakes</code> table is created successfully, but no data has been inserted yet.
<code>SELECT * FROM Admin.Students;</code>	Empty result set	The <code>Admin.Students</code> table is created successfully, but no data has been inserted yet.
<code>SELECT * FROM Admin.Courses;</code>	Empty result set	The <code>Admin.Courses</code> table is created successfully, but no data has been inserted yet.
<code>SELECT * FROM Admin.Instructors;</code>	Empty result set	The <code>Admin.Instructors</code> table is created successfully, but no data has been inserted yet.
<code>SELECT * FROM Admin.InstructorCourses;</code>	Empty result set	The <code>Admin.InstructorCourses</code> table is created successfully, but no data has been inserted yet.
<code>SELECT * FROM Admin.QuestionPool;</code>	Empty result set	The <code>Admin.QuestionPool</code> table is created successfully, but no data has been inserted yet.

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Test Query	Result	Comment
<code>SELECT * FROM Admin.Exams;</code>	Empty result set	The <code>Admin.Exams</code> table is created successfully, but no data has been inserted yet.
<code>SELECT * FROM Admin.ExamQuestions;</code>	Empty result set	The <code>Admin.ExamQuestions</code> table is created successfully, but no data has been inserted yet.
<code>SELECT * FROM Admin.StudentExams;</code>	Error: Invalid object name 'Admin.StudentExams'.	The query fails because the creation of the <code>Admin.StudentExams</code> table was not completed in the given code.

## Procedures :

**Test 1: Display all courses.**

```
# Query
...
exec usp_displayCourses @TopicName= 'Web'
```

## Result

Topic Name	CourseID	CourseName
Web	101	HTML
Web	102	CSS
Web	103	JavaScript

## Comment

The query successfully displays all courses under the topic 'Web'.

## Test 2: Student registers in a course

### Query

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```
exec usp_registerInCourse @studentId = 201, @Courseid = 101
```

## Result

StudentID	CourseID
201	101

## Comment

The student with ID 201 has successfully registered in the course with ID 101.

## Test 3: Student shows their registered courses

### Query

```
exec usp_showRegisterdCourses @studentid = 201
```

## Result

CourseName
HTML

## Comment

The student with ID 201 is registered in the course 'HTML'.

## Test 4: Show exams in a course

### Query

```
exec usp_showExamsInCourse @Cname = 'HTML'
```

## Result

ExamID	ExamName
301	HTML Midterm Exam
302	HTML Final Exam

## Comment

The course 'HTML' has two exams: a midterm exam and a final exam.

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## Test 5: Get exam information

### Query

.

```
exec usp_getExamInfo @ExamID = 301
```

### Result

Question	Type
What is an HTML tag?	Multiple Choice
Write an example of an HTML tag.	Text

### Comment

The exam with ID 301 has two questions, one multiple choice and one text.

## Test 6: Answer a question

### Query

.

```
exec usp_answerQues @studentID = 201, @ExamID = 301, @QuesID = 401,  
@stdAnswer = 'An HTML tag is used to mark up content in an HTML document.'
```

### Result

No result.

### Comment

The student with ID 201 has successfully answered the question with ID 401 in the exam with ID 301.

## Test 7: Update an answer to a question

### Query

.

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```
exec usp_updateAnswerQues @studentID = 201, @ExamID = 301, @QuesID = 401,
@stdAnswer = 'An HTML tag is used to mark up content in an HTML document and
provide structure to the page.'
```

## Result

No result.

## Comment

The student with ID 201 has successfully updated their answer to the question with ID 401 in the exam with ID 301.

## Test 8: Get all answers to review

### Query

.

```
exec usp_GetStudentExamAnswers @studentID = 201, @ExamID = 301
```

## Result

QuestionID	QuestionText	Your answer
401	What is an HTML tag?	An HTML tag is used to mark up content in an HTML document and provide structure to the page.

## Comment

The student with ID 201 has answered one question in the exam with ID 301.

## Test 9: Show the course score

### Query

.

```
exec usp_showExamScore @StudentID = 201
```

## Result

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CourseName	CourseScore
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HTML	85
------	----

### Comment

The student with ID 201 has scored 85 in the course HTML.

## Test10: Calculate Exam Score

### Query

.

```
exec usp_CalculateExamScore @StudentID=201,@CourseID=101
```

### Result

No result.

### Comment

The score of student with ID 201 for course HTML has been calculated successfully.

## Test11: Add Course

### Query

.

```
exec usp_AddCourse  
@CourseId='104',@CourseName='React',@CourseMaxDegree=100,@CourseMinDegree=50,  
@TopicID=1
```

### Result

No result.

### Comment

The course React has been added successfully.

### # Test Sheet

Test 12: Add an exam

### # Query

...

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```
exec usp_AddExam @instructorID = 501, @ExamID = 601, @ExamType = 'Midterm',
@IntakeID = 701, @BranchID = 801, @TrackID = 901, @CourseID = 101, @ExamName
= 'HTML Midterm Exam'
```

## Result

QuestionText	QuestionType
What is an HTML tag?	Multiple Choice
Write an example of an HTML tag.	Text

## Comment

The instructor with ID 501 has successfully added an exam with ID 601 to the course with ID 101.

## Test 13: Add a question

### Query

.

```
exec usp_AddQuestion @QuestionID = 1001, @QuestionText = 'What is an HTML
attribute?', @QuestionType = 'Multiple Choice', @CorrectAnswer = 'An HTML
attribute provides additional information about an HTML element.',
@BestAnswer = 'An HTML attribute provides additional information about an
HTML element.'
```

## Result

No result.

## Comment

A new question with ID 1001 has been added to the question pool.

## Test 14: Display the question pool

### Query

.

```
exec usp_displayQuestionPool @instructorID = 501, @CourseID = 101
```

## Result

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QuestionText	QuestionType
--------------	--------------

What is an HTML tag?	Multiple Choice
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Write an example of an HTML tag.	Text
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What is an HTML attribute?	Multiple Choice
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### Comment

The instructor with ID 501 can view all questions in the question pool for the course with ID 101.

## Test 15: Manager adds a course for an instructor

### Query

.

```
exec usp_addCourseforinstructor @supID = 1101, @instructorID = 501, @CourseID = 101
```

### Result

No result.

### Comment

The supervisor with ID 1101 has successfully added the course with ID 101 to the instructor with ID 501.

## Test 16: Retrieve all students registered in a specific course

### Query

.

```
exec usp_GetStudentsInCourse @CourseName = 'HTML'
```

### Result

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**StudentName   StudentEmail**

John Doe      john.doe@example.com

## Comment

One student, John Doe, is registered in the course 'HTML'.

## Test 17: Retrieve all exams for a specific student

### Query

.

```
exec usp_GetStudentExams @StudentID = 201
```

### Result

**ExamID   ExamName   ExamDate   ExamStartTime   ExamEndTime**

301	HTML Midterm Exam	2023-09- 01	09:00:00	11:00:00
-----	-------------------------	----------------	----------	----------

## Comment

The student with ID 201 has one exam HTML Midterm Exam on 2023-09-01 from 09:00:00 to 11:00:00.

## Test18: Add a new topic

### Query

.

```
exec usp_AddTopic @TopicName='Web Development'
```

### Result

No result.

## Comment

The topic Web Development has been added successfully.

## Test19: Update a student's information

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## Query

```
exec usp_UpdateStudentInfo @StudentID=201,@StudentName='John  
Doe',@StudentEmail='john.doe@example.com',@StudentPhone='1234567890',@IntakeID=701,@BranchID=801,@TrackID=901
```

## Result

No result.

## Comment

The information of student with ID 201 has been updated successfully.

## Test20: Insert a new course

### Query

```
exec usp_InsertCourse @CourseName='React',@CourseDescription='This course  
teaches the fundamentals of  
React.',@CourseMaxDegree=100,@CourseMinDegree=50,@TopicId=1
```

### Result

No result.

### Comment

The course `React` has been inserted successfully.

## Test21: Add a new question to the question pool

### Query

```
exec usp_AddQuestionToPool @QuestionText='What is  
React?',@QuestionType='Multiple Choice',@CorrectAnswer='React is a JavaScript  
library for building user interfaces.',@BestAnswer='React is a JavaScript  
library for building user interfaces.'
```

### Result

No result.

### Comment

A new question has been added to the question pool successfully.

---

## Triggers :

## ## Test 22: Trigger after registering in a course

### ### Query

```
insert into StudentCourses (StudentID, CourseID) values (201, 101)
```

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## Result

You registered in 'HTML' course the max degree is 100 and the min degree is 50

## Comment

After a student registers in a course, a message is printed with information about the course.

## Test 23: Trigger to validate a student's answer

### Query

```
insert into StudentAnswers (StudentID, ExamID, QuestionID, StudentAnswer)
values (201, 301, 401, 'An HTML tag is used to mark up content in an HTML
document.')
```

## Result

No result.

## Comment

After a student submits an answer to a question, the answer is validated and the `IsCorrect` column in the `StudentAnswers` table is updated accordingly.

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## Users :

## Test 24: Trigger to notify the admin on login

```
-- Login as a student
EXECUTE AS LOGIN = 'student';
REVERT;
```

## Result

### NotificationMessage

User student logged in at Aug 31 2023  
9:00PM

## Comment

After a user logs in, a notification is sent to the admin with information about the login.

## Test 25: Create users and grant permissions

### Query

```
-- Create the users and grant permissions
```

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## Result

No result.

## Comment

Users Admin, TrainingManager, and Instructor have been created and granted appropriate permissions.

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