**Brief Description For All Objects**

**1-Triggers:**

**Triggers can be used to ensure data integrity, such as ensuring that the total degrees for an exam do not exceed the course's maximum degree or ensuring that an instructor can only edit the question pool for their own course. Indexes can also be implemented on columns that are frequently used for querying, such as course name or student name .**

**Triggers are special types of stored procedures that automatically execute in response to certain database events, such as insert, update, or delete operations on a table. They can be used to enforce data integrity rules, implement complex business logic, or perform auditing and logging tasks:**

-**PreventInsFromEdit\_trg:** prevent instructor from adding questions in a course other than his course**.**

**-PreventInsFromUpdate\_trg:** prevent instructor from update questions in a course other than his course.

**- PreventInsFromDelete\_trg:** prevent instructor from delete questions in a course other than his course**.**

**- PreventMngFromupdateMGIDcol\_trg:** prevent Training Manager from update column MG\_ID on Instructor table **.**

**-CheckQuesTypeAnswer\_trg:** Check answer C, and answer D based on the type of question.

**-TRIGGER TR\_Question\_Edit:** restrict modification of the question pool to authorized users:

**-PreventInsFromEditExamQue\_trg:** prevent instructor from adding questions in a course other than his course**.**

**- PreventInsFromUpdateExamQue\_trg:** prevent instructor from update questions in a course other than his course.

**- PreventInsFromDeleteExamQue\_trg:** prevent instructor from delete questions in a course other than his course**.**

**- CheckQuesTypeChoices\_trg:** Check answer C, and answer D based on the type of question.

**- CheckTotalDegreeOfExam\_trg:** Checks the total degree of the exam questions based on the maximum degree of the course**.**

**-TRIGGER TR\_ExamQuestion\_TotalDegree:** **prevent exams from being created with an invalid total degree**

**-TR\_Exam\_Audit : Implement auditing to track changes to the Exam table over time**

**2-Stored Procedures:**

**-SearchForResultesByStId\_sp:** Search in results table using the student Id and take a variable for it.

**-SearchForResultesByEX\_Id\_sp:** Search in results table using the Exam Id and take a variable for it.

**- SearchForResultesByDegree\_sp:** Search in results table using the student degree and take a variable for it.

**- SearchForResultesByGreaterThanDegree\_sp:** Search in the results table for results that are greater than a specific resultand take a variable for it.

**- SearchForResultesBySmallerThanDegree\_sp:** Search in the results table for results that are smaller than a specific resultand take a variable for it.

**- AddStudentIntoExam\_sp:** Instructor can add student into specific exam.

**- AddNewExam\_sp:** Instructor can add new exam data into exam table.

**- ExamCorrection:** Corrects exam questions.

**- SummationDegrees:** Sum the student's degrees in the exam

**- GetExamInfo:** show exam details(Exam name , Exam type , Course name , Trak name).

**3-Functions:**

**- SelectQuestionExam\_fn:** instructor can make the exam by selecting questions using his ID & password as parameters with question id (selected in table).

**- ShowExam\_fn:** Show the exam by exam id as parameters with course, instractor name and the year of start time of exam.

**- SpecifiedtimeExam\_fn:** the ability of specify the time to showing the details of exam to student by getting time bulit-in fun.

**- CalcResult\_fn:** Calculate the sum of degree based on student answers by student id and exam id as parameters.

**4-Views**

**- AdminInfos:** Show only ID, Name, Username from Admin table.

**- StudentsResult:** show student ID , Exam ID , Student total degree.

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| --- | --- |
| Objects | Number |
| Tables | 12 |
| Triggers | 14 |
| Stored Procedures | 10 |
| Functions | 4 |
| Views | 2 |

Team

1- Manar (Stored Procedures /Erd /Mapping/Daily BackUp)

2- Amna (Triggers /Accounts )

3- Mana (Tables Creation / Views)

4-Fatma (Functions /Diagram )

بالنسبة للسكربت الخاص بالبروجكت والاسكرينات وملفات البروجكت دي كل حد منن كان بيجمع الجزء الخاص بيه علي بعضه