ITI_Examination

Tables:

Procedures:

It takes 2 parameters (course code and the topic)

Insert a new department.
It takes 3 parameters (department name, its manager ID and his/her hiring date)

Insert a new instructor.
It takes 5 parameters (instructor firstname, lastname, salary, degree and the department he/she is assigned to)

Assign an instructor to teach a specific course.
Ic takes 2 parameters (instructor ID and the course code)

Insert a new question.
It takes 5 parameters (question body, its model answer, irs mark, type of the question MCQ or TorF and the course code that the question belongs to)

Insert a new student.
It takes 6 parameters (student firstname,
lastname,
date of birth,
address,
mobile number and
department number that the student belongs to)

Insert a course of a student.
Ic takes 2 parameters (student code and the cours)

Retrieve the information of all students.

Retrieve a specific course by passing its code.

Retrieve the topics of a course by passing its code.

Retrieve a department data by passing its number.

Retrieve the data of an exam by passing its number.

Retrieve the questions in an exam by passing its number.

Retrieve the information of instructor by passing his/her ID.

Retrieve all the courses that is beeing taught by an instructor by passing his/her ID.

Tables:

Table dbo.Course

This table contains data of courses

	Column	Data Type	Identity	Nullable	Default
PK	crs_Code	smallint	X		
	Course code (identifier)				
UK	crs_Name	varchar(50)			
	Course name				
	crs_Duration	tinyint			
	Course duration in hours				

Indexes:

PK__Course__989BDEAAB17E1AD0 *(Primary Key) (Clustered)*

crs_Code

UQ__Course__61035BFB2EEA37B5 *(Unique)*

crs_Name

Referenced by:

dbo.Course_Topics *(crs_Code)*

dbo.Exam *(crs_Code)*

dbo.Instructor_Course *(crs_Code)*

dbo.Questions *(crs_Code)*

dbo.Student_Course *(crs_Code)*

Triggers:

selectInsertedCourse *(After Insert)*

Used by:

Procedure dbo.deleteCourse

Procedure dbo.deleteStudentCourse

Procedure dbo.ExamGeneration

Procedure dbo.GetCourseTopics

Procedure dbo.GetInstructorCourses

Procedure dbo.GetStudentsGrades

Procedure dbo.insertCourse

Procedure dbo.insertCourseTopics

Procedure dbo.insertInstructorCourse

Procedure dbo.insertStudentCourse

Procedure dbo.PrintExam

Procedure dbo.PrintExamWithStudAns

Procedure dbo.selectCourse

Procedure dbo.updateCourse

Procedure dbo.updateInstructorCourse

Procedure dbo.updateStudentCourseGrade

Table dbo.Course_Topics

This table contains the topics for each course

	Column	Data Type	Identity	Nullable	Default
PK, FK	crs_Code	smallint			
	Course code (FK refers to course code)				
PK	topic_name	varchar(50)			
	Topic name				

Indexes:

PK__Course_T__5DD070F456235C2D *(Primary Key) (Clustered)*

crs_Code
topic_name

References:

dbo.Course *(crs_Code)*

Used by:

Procedure dbo.deleteCourseTopics

Procedure dbo.GetCourseTopics

Procedure dbo.insertCourseTopics

Procedure dbo.selectCourseTopics

Procedure dbo.updateCourseTopics

Table dbo.Department

This table contains data of departments

	Column	Data Type	Identity	Nullable	Default
PK	dept_No	smallint	X		
	Department number (identifier)				
UK	dept_Name	varchar(50)			
	Department name				
UK, FK	mngr_Id	smallint		X	
	Manager ID (FK refers to instructor ID)				
	mngr_HireDate	date		X	
	Manager hiring date				

Indexes:

> **PK__Departme__DCA9D20EF53A662C** *(Primary Key) (Clustered)*
>
> > dept_No
>
> **UQ__Departme__2EE0F2A44F315A17** *(Unique)*
>
> > dept_Name
>
> **UQ__Departme__A22A1FAA19E3C867** *(Unique)*
>
> > mngr_Id

References:

> **dbo.Instructor** *(mngr_Id -> inst_Id)*

Referenced by:

> **dbo.Instructor** *(dept_No)*
>
> **dbo.Student** *(dept_No)*

Triggers:

> **selectInsertedDepartment** *(After Insert)*

Used by:

> **Procedure dbo.deleteDepartment**
>
> **Procedure dbo.GetStudentInfoByDeptNo**
>
> **Procedure dbo.insertDepartment**
>
> **Procedure dbo.insertInstructor**
>
> **Procedure dbo.insertStudent**
>
> **Procedure dbo.PrintExamWithStudAns**
>
> **Procedure dbo.selectDepartment**
>
> **Procedure dbo.updateDepartment**
>
> **Procedure dbo.updateStudent**
>
> **Procedure dbo.updateStudentDepartment**

Table dbo.Exam

This table contains all exams

	Column	Data Type	Identity	Nullable	Default
PK	exam_No	smallint	X		
	Exam number (identifier)				
	exam_Date	datetime			
	Exam date				
	total_Marks	smallint		X	
	Exam total mark (the sum of its questions marks)				
	exam_Duration	smallint			60
	Exam duration (in minutess)				
FK	crs_Code	smallint			
	Course which is the exam for (FK refers to course code)				

Indexes:

> **PK__Exam__9CB0AEDE6FD20415** *(Primary Key) (Clustered)*
>
> > exam_No

References:

> **dbo.Course** *(crs_Code)*

Referenced by:

> **dbo.Exam_Questions** *(exam_No)*
>
> **dbo.Student_Answers** *(exam_No)*

Triggers:

> **preventDeleteExam** *(Instead Of Delete)*
>
> **selectInsertedExam** *(After Insert)*

Used by:

> **Procedure dbo.deleteExam**
>
> **Procedure dbo.ExamAnswers**
>
> **Procedure dbo.ExamCorrection**
>
> **Procedure dbo.ExamGeneration**
>
> **Procedure dbo.PrintExam**
>
> **Procedure dbo.PrintExamWithStudAns**
>
> **Procedure dbo.selectExam**
>
> **Procedure dbo.updateExam**

Table dbo.Exam_Questions

This table linking the exam with its questions

	Column	Data Type	Identity	Nullable	Default
PK, FK	exam_No	smallint			
	Exam number (FK refers to exam number)				
PK, FK	quest_No	smallint			
	Question number (FK refers to question number)				

Indexes:

      PK__Exam_Que__65104BEA5377F68A *(Primary Key) (Clustered)*

          exam_No
          quest_No

References:

      dbo.Exam *(exam_No)*

      dbo.Questions *(quest_No)*

Used by:

      Procedure dbo.ExamAnswers

      Procedure dbo.ExamGeneration

      Procedure dbo.PrintExam

      Procedure dbo.selectExamQuestions

Table dbo.Instructor

This table contains data of instructors

	Column	Data Type	Identity	Nullable	Default
PK	inst_Id	smallint	X		
	Instructor ID (identifier)				
UK	inst_Fname	varchar(20)			
	Instructor first name				
UK	inst_Lname	varchar(20)			
	Instructor last name				
UK	inst_Salary	int			
	Instructor salary				
UK	inst_Degree	varchar(50)		X	
	Instructor degree				
FK	dept_No	smallint			
	Department number (FK refers to department number)				

Indexes:

> **PK__Instruct__0207902507C30066** *(Primary Key) (Clustered)*
>
>> inst_Id
>
> **UQ__Instruct__C87385B4C7A0AF43** *(Unique)*
>
>> inst_Fname
>> inst_Lname
>> inst_Degree
>> inst_Salary

References:

> **dbo.Department** *(dept_No)*

Referenced by:

> **dbo.Department** *(mngr_Id -> inst_Id)*
>
> **dbo.Instructor_Course** *(inst_Id)*

Triggers:

> **selectInsertedInstructor** *(After Insert)*

Used by:

> **Procedure dbo.deleteInstructor**
>
> **Procedure dbo.GetInstructorCourses**
>
> **Procedure dbo.insertInstructor**
>
> **Procedure dbo.insertInstructorCourse**
>
> **Procedure dbo.selectInstructor**
>
> **Procedure dbo.updateInstructor**
>
> **Procedure dbo.updateInstructorCourse**

Table dbo.Instructor_Course

This table linking the instructors with the courses they teach

	Column	Data Type	Identity	Nullable	Default
PK, FK	inst_Id	smallint			
	Instructor ID (FK refers to instructor ID)				
PK, FK	crs_Code	smallint			
	Course code (FK refers to course code)				

Indexes:

> **PK__Instruct__BB8E2DCFE5B0FBDF** *(Primary Key) (Clustered)*
>
>> inst_Id
>> crs_Code

References:

> **dbo.Course** *(crs_Code)*
>
> **dbo.Instructor** *(inst_Id)*

Used by:

> **Procedure dbo.deleteInstructorCourse**
>
> **Procedure dbo.GetInstructorCourses**
>
> **Procedure dbo.insertInstructorCourse**
>
> **Procedure dbo.selectInstructorCourse**
>
> **Procedure dbo.updateInstructorCourse**

Table dbo.Question_Choices

This table contains choices of MCQ questions

	Column	Data Type	Identity	Nullable	Default
PK, FK	quest_No	smallint			
	Question number that the choices belong to (FK refers to question number)				
PK	choice	varchar(1)			
	Choice				
	choice_Body	varchar(150)			
	Choice body				

Indexes:

PK__Question__8D7D5A1E7BAC1F6C *(Primary Key) (Clustered)*

quest_No
choice

References:

dbo.Questions *(quest_No)*

Used by:

Procedure dbo.insertQuestion

Procedure dbo.PrintExam

Procedure dbo.PrintExamWithStudAns

Procedure dbo.selectQuestion

Procedure dbo.updateQuestionChoices

Table dbo.Questions

This table contains courses questions

	Column	Data Type	Identity	Nullable	Default
PK	quest_No	smallint	X		
	Question number (identifier)				
UK	quest_Body	varchar(250)			
	Question body				
	quest_ModelAnswer	varchar(1)			
	Question model answer				
	quest_Mark	tinyint			
	Question mark				
	quest_Type	varchar(10)			
	Question type. It can be either TorF or MCQ. Choices of MCQ can not exceed 4 choices				
FK	crs_Code	smallint			
	Course that the question belongs to code (FK refers to course code)				

Indexes:

> **PK__Question__9A0E534EFFB8544A** *(Primary Key) (Clustered)*
>
>> quest_No
>
> **UQ__Question__3F3B80923A7F44BB** *(Unique)*
>
>> quest_Body

References:

> **dbo.Course** *(crs_Code)*

Referenced by:

> **dbo.Exam_Questions** *(quest_No)*
>
> **dbo.Question_Choices** *(quest_No)*
>
> **dbo.Student_Answers** *(quest_No)*

Triggers:

> **selectInsertedQuestion** *(After Insert)*

Used by:

> **Procedure dbo.deleteQuestion**
>
> **Procedure dbo.ExamAnswers**
>
> **Procedure dbo.ExamGeneration**
>
> **Procedure dbo.insertQuestion**
>
> **Procedure dbo.PrintExam**
>
> **Procedure dbo.PrintExamWithStudAns**
>
> **Procedure dbo.selectExamQuestions**
>
> **Procedure dbo.selectQuestion**
>
> **Procedure dbo.updateQuestion**
>
> **Procedure dbo.updateStudentAnswer**

Table dbo.Student

This table contains students data

	Column	Data Type	Identity	Nullable	Default
PK	std_Id	smallint	X		
	Student ID (identifier)				
UK	std_Fname	varchar(20)			
	Student first name				
UK	std_Lname	varchar(20)			
	Student last name				
UK	std_DOB	date		X	
	Student date of birth				
	std_Address	varchar(250)			
	Student address				
	std_Mobile	varchar(20)		X	
	Student mobile number				
FK	dept_No	smallint			
	Department that the Student belongs to (FK refers to department number)				

Indexes:

PK__Student__0B2DD1627EC38FDC *(Primary Key) (Clustered)*

std_Id

UQ__Student__76FDD07BFF5A76E7 *(Unique)*

std_Fname
std_Lname
std_DOB

References:

dbo.Department *(dept_No)*

Referenced by:

dbo.Student_Answers *(std_Id)*

dbo.Student_Course *(std_Id)*

Triggers:

selectInsertedStudent *(After Insert)*

Used by:

Procedure dbo.deleteStudent

Procedure dbo.deleteStudentByName_AND_DOB

Procedure dbo.deleteStudentCourse

Procedure dbo.ExamAnswers

Procedure dbo.GetStudentInfoByDeptNo

Procedure dbo.GetStudentsGrades

Procedure dbo.insertStudent

Procedure dbo.insertStudentCourse

Procedure dbo.PrintExamWithStudAns

Procedure dbo.selectAllStudents

Procedure dbo.selectStudent

Procedure dbo.selectStudentCourse

Procedure dbo.updateStudent

Procedure dbo.updateStudentAddress

Procedure dbo.updateStudentCourseGrade

Procedure dbo.updateStudentDepartment

Procedure dbo.updateStudentDOB

Procedure dbo.updateStudentMobile

Procedure dbo.updateStudentName

Table dbo.Student_Answers

This table represents the ternary relation between student, exam, questions tables

	Column	Data Type	Identity	Nullable	Default
PK, FK	std_Id	smallint			
	Student ID (FK refers to student ID)				
PK, FK	exam_No	smallint			
	Exam Number (FK refers to exam number)				
PK, FK	quest_No	smallint			
	Question Number(FK refers to question number)				
	std_Answer	varchar(1)		X	
	Student Answer is the actual answer of the student in the exam in this question				
	score	smallint		X	
	Score is the grade of the student answer in this question in the exam				

Indexes:

PK__Student____BD7CD5DC15FFFAB7 *(Primary Key) (Clustered)*

std_Id
exam_No
quest_No

References:

dbo.Exam *(exam_No)*

dbo.Questions *(quest_No)*

dbo.Student *(std_Id)*

Used by:

Procedure dbo.deleteStudentAnswer

Procedure dbo.ExamAnswers

Procedure dbo.ExamCorrection

Procedure dbo.PrintExamWithStudAns

Procedure dbo.selectQuestStudAnswer

Procedure dbo.updateStudentAnswer

Table dbo.Student_Course

This table linking the student with the courses they take

	Column	Data Type	Identity	Nullable	Default
PK, FK	std_Id	smallint			
	Student ID (FK refers to student ID)				
PK, FK	crs_Code	smallint			
	Course code (FK refers to course code)				
	grade	decimal(5,2)		X	
	Grade is the student GPA in this course				

Indexes:

> **PK__Student___B2A46C88605246C9** *(Primary Key) (Clustered)*
>
> > std_Id
> > crs_Code

References:

> **dbo.Course** *(crs_Code)*
>
> **dbo.Student** *(std_Id)*

Used by:

> **Procedure dbo.deleteStudentCourse**
>
> **Procedure dbo.ExamAnswers**
>
> **Procedure dbo.ExamCorrection**
>
> **Procedure dbo.GetInstructorCourses**
>
> **Procedure dbo.GetStudentsGrades**
>
> **Procedure dbo.insertStudentCourse**
>
> **Procedure dbo.selectStudentCourse**
>
> **Procedure dbo.updateStudentCourseGrade**

Procedures:

Procedure dbo.deleteCourse

Delete a specific course by passing its code.
Deleting a course will delete its topics and its questions.

Parameter	Data Type	Default	Is Output
@code	smallint		

Result:

Column	Data Type	Nullable
Error Message	varchar(28)	

Uses:

Table dbo.Course

Procedure dbo.deleteCourseTopics

Delete a topic by passing the course code and the topic name.

Parameter	Data Type	Default	Is Output
@code	smallint		
@tpname	varchar(50)		

Result:

Column	Data Type	Nullable
Error Message	varchar(37)	

Uses:

Table dbo.Course_Topics

Procedure dbo.deleteDepartment

Delete a department by passing its number.
You can not delete a department that has instructors assigned to it.

Parameter	Data Type	Default	Is Output
@no	smallint		

Result:

Column	Data Type	Nullable
Error	varchar(37)	

Uses:

Table dbo.Department

Procedure dbo.deleteExam

Delete an exam by passing its number.
You can not delete an exam that students have answered.

Parameter	Data Type	Default	Is Output
@examNo	smallint		

Result:

Column	Data Type	Nullable
Error	varchar(31)	

Uses:

Table dbo.Exam

Procedure dbo.deleteInstructor

Delete an instructor by passing his/her ID.
Deleting an instructor will delete the courses he teach.

Parameter	Data Type	Default	Is Output
@id	smallint		

Result:

Column	Data Type	Nullable
Error	varchar(33)	

Uses:

Table dbo.Instructor

Procedure dbo.deleteInstructorCourse

Delete a Course by passing its number and the ID of the instructor.

Parameter	Data Type	Default	Is Output
@inst_Id	smallint		
@crs_Code	smallint		

Result:

Column	Data Type	Nullable
Error	varchar(23)	

Uses:

Table dbo.Instructor_Course

Procedure dbo.deleteQuestion

Delete a question by passing its number.
You can not delete a question that is used in any exam.

Parameter	Data Type	Default	Is Output
@no	smallint		

Result:

Column	Data Type	Nullable
Error	varchar(35)	

Uses:

> **Table dbo.Questions**

Procedure dbo.deleteStudent

Delete a Student by passing his/her ID.

Parameter	Data Type	Default	Is Output
@student_Id	smallint		

Result:

Column	Data Type	Nullable
(No column name)	varchar(29)	

Uses:

Table dbo.Student

Procedure dbo.deleteStudentAnswer

Delete a student answer by passing its number and the ID of the student.

Parameter	Data Type	Default	Is Output
@studID	smallint		
@examNumber	smallint		
@questionNumber	smallint		

Result:

Column	Data Type	Nullable
(No column name)	varchar(22)	

Uses:

Table dbo.Student_Answers

Procedure dbo.deleteStudentByName_AND_DOB

Delete a student by passing his/her firstname, lastname and his date of birth.

Parameter	Data Type	Default	Is Output
@Fname	varchar(20)		
@Lname	varchar(20)		
@BirthDate	date		

Result:

Column	Data Type	Nullable
(No column name)	varchar(25)	

Uses:

Table dbo.Student

Procedure dbo.deleteStudentCourse

Delete a Course from by passing its code and the student ID.

Parameter	Data Type	Default	Is Output
@stdID	smallint		
@crsCode	smallint		

Result:

Column	Data Type	Nullable
Error Message	varchar(62)	

Uses:

Table dbo.Course

Table dbo.Student

Table dbo.Student_Course

Procedure dbo.ExamAnswers

Insert a student answers in an exam.
It takes 12 parameters (stduent ID, exam number, 10 answers)

Parameter	Data Type	Default	Is Output
@studID	smallint		
@examNumber	smallint		
@answer1	varchar(1)		
@answer2	varchar(1)		
@answer3	varchar(1)		
@answer4	varchar(1)		
@answer5	varchar(1)		
@answer6	varchar(1)		
@answer7	varchar(1)		
@answer8	varchar(1)		
@answer9	varchar(1)		
@answer10	varchar(1)		

Result:

Column	Data Type	Nullable
Error	varchar(14)	

Uses:

Procedure dbo.updateStudentAnswer

Table dbo.Exam

Table dbo.Exam_Questions

Table dbo.Questions

Table dbo.Student

Table dbo.Student_Answers

Table dbo.Student_Course

Procedure dbo.ExamCorrection

This procedure calculates the sum of correct answers for a student in a specific exam then updates his/her grade. It takes 2 parameters (exam number and student ID).

Parameter	Data Type	Default	Is Output
@exam_no	smallint		
@id	smallint		

Result:

Column	Data Type	Nullable
Error	varchar(14)	

Uses:

       Table dbo.Exam

       Table dbo.Student_Answers

       Table dbo.Student_Course

Procedure dbo.ExamGeneration

This procedures generates an exam by choosing random questions.
It takes 5 parameters (course code, number of MCQs, number of TorF questions, exam datetime, exam duration in minutes).

Parameter	Data Type	Default	Is Output
@crsCode	smallint		
@mcqNo	tinyint		
@tfNo	tinyint		
@examDate	datetime		
@examDuration	smallint	60	

Result:

Column	Data Type	Nullable
Error	varchar(35)	

Uses:

      Table dbo.Course

      Table dbo.Exam

      Table dbo.Exam_Questions

      Table dbo.Questions

Procedure dbo.GetCourseTopics

To get a course name and its all topics by passing the course code.
(for crystal report)

Parameter	Data Type	Default	Is Output
@courseID	smallint		

Result:

Column	Data Type	Nullable
Course Name	varchar(50)	
Topic Name	varchar(50)	

Uses:

Table dbo.Course

Table dbo.Course_Topics

Procedure dbo.GetInstructorCourses

To get all courses taught by an instructor and the number of students per course.
(for crystal report)

Parameter	Data Type	Default	Is Output
@inst_id	smallint		

Result:

Column	Data Type	Nullable
Course Name	varchar(50)	
Number of Students	int	X
Name	varchar(41)	

Uses:

Table dbo.Course

Table dbo.Instructor

Table dbo.Instructor_Course

Table dbo.Student_Course

Procedure dbo.GetStudentInfoByDeptNo

To get all students info in a department
(for crystal report).

Parameter	Data Type	Default	Is Output
@dept_no	smallint		

Result:

Column	Data Type	Nullable
Student ID	smallint	
Student First Name	varchar(20)	
Student Last name	varchar(20)	
Student Address	varchar(250)	
Student Mobile	varchar(20)	X
Student Birthdate	date	X
Dept Name	varchar(50)	

Uses:

Table dbo.Department

Table dbo.Student

Procedure dbo.GetStudentsGrades

To get the name of the student, names of his/her courses and his/her grades in each course.
(for crystal report)

Parameter	Data Type	Default	Is Output
@studentID	smallint		

Result:

Column	Data Type	Nullable
Student Name	varchar(41)	
Course Name	varchar(50)	
grade	varchar(1)	

Uses:

Table dbo.Course

Table dbo.Student

Table dbo.Student_Course

Procedure dbo.insertCourse

Insert a new course.
It takes 2 parameters (course name and course duration in hours)

Parameter	Data Type	Default	Is Output
@name	varchar(50)		
@duration	tinyint		

Result:

Column	Data Type	Nullable
Error Message	varchar(7)	

Uses:

Table dbo.Course

Procedure dbo.insertCourseTopics

Insert a topic of a course.
It takes 2 parameters (course code and the topic)

Parameter	Data Type	Default	Is Output
@code	smallint		
@tpname	varchar(50)		

Result:

Column	Data Type	Nullable
Error Message	varchar(14)	

Uses:

Table dbo.Course

Table dbo.Course_Topics

Procedure dbo.insertDepartment

Insert a new department.
It takes 3 parameters (department name, its manager ID and his/her hiring date)

Parameter	Data Type	Default	Is Output
@name	varchar(50)		
@mngr_id	smallint		
@mngr_HireDate	date		

Result:

Column	Data Type	Nullable
Error	varchar(5)	

Uses:

Table dbo.Department

Procedure dbo.insertInstructor

Insert a new instructor.
It takes 5 parameters (instructor firstname, lastname, salary, degree and the department he/she is assigned to)

Parameter	Data Type	Default	Is Output
@dept_No	smallint		
@Fname	varchar(20)		
@Lname	varchar(20)		
@Salary	int		
@Degree	varchar(50)	null	

Result:

Column	Data Type	Nullable
Error	varchar(29)	

Uses:

Table dbo.Department

Table dbo.Instructor

Procedure dbo.insertInstructorCourse

Assign an instructor to teach a specific course.
Ic takes 2 parameters (instructor ID and the course code)

Parameter	Data Type	Default	Is Output
@inst_Id	smallint		
@crs_Code	smallint		

Result:

Column	Data Type	Nullable
Error	varchar(15)	

Uses:

Table dbo.Course

Table dbo.Instructor

Table dbo.Instructor_Course

Procedure dbo.insertQuestion

Insert a new question.
It takes 5 parameters (question body, its model answer, irs mark, type of the question MCQ or TorF and the course code that the question belongs to)

Parameter	Data Type	Default	Is Output
@course	smallint		
@body	varchar(250)		
@answer	varchar(1)		
@mark	tinyint		
@choice_a	varchar(150)	null	
@choice_b	varchar(150)	null	
@choice_c	varchar(150)	null	
@choice_d	varchar(150)	null	

Result:

Column	Data Type	Nullable
(No column name)	varchar(53)	

Uses:

Table dbo.Question_Choices

Table dbo.Questions

Procedure dbo.insertStudent

Insert a new student.
It takes 6 parameters (student firstname,
lastname,
date of birth,
address,
mobile number and
department number that the student belongs to)

Parameter	Data Type	Default	Is Output
@Fname	varchar(20)		
@Lname	varchar(20)		
@DateOB	date		
@Address	varchar(250)		
@MobileNumber	varchar(20)		
@deptNumber	smallint		

Result:

Column	Data Type	Nullable
(No column name)	varchar(30)	

Uses:

Table dbo.Department

Table dbo.Student

Procedure dbo.insertStudentCourse

Insert a course of a student.
Ic takes 2 parameters (student code and the cours)

Parameter	Data Type	Default	Is Output
@stdID	smallint		
@code	smallint		

Result:

Column	Data Type	Nullable
Error Message	varchar(15)	

Uses:

Table dbo.Course

Table dbo.Student

Table dbo.Student_Course

Procedure dbo.PrintExam

Parameter	Data Type	Default	Is Output
@examNo	smallint		

Result:

Column	Data Type	Nullable
qtype	varchar(10)	X
body	varchar(250)	X
crsName	varchar(50)	X
examDuration	smallint	X
examDate	datetime	X

Uses:

Table dbo.Course

Table dbo.Exam

Table dbo.Exam_Questions

Table dbo.Question_Choices

Table dbo.Questions

Procedure dbo.PrintExamWithStudAns

Parameter	Data Type	Default	Is Output
@examNo	smallint		
@stdID	smallint		

Result:

Column	Data Type	Nullable
qtype	varchar(10)	X
body	varchar(250)	X
crsName	varchar(50)	X
examDuration	smallint	X
stdName	varchar(40)	X
deptName	varchar(50)	X
examDate	datetime	X

Uses:

Table dbo.Course

Table dbo.Department

Table dbo.Exam

Table dbo.Question_Choices

Table dbo.Questions

Table dbo.Student

Table dbo.Student_Answers

Procedure dbo.selectAllStudents

Retrieve the information of all students.

No parameters.

Result:

Column	Data Type	Nullable
std_Id	smallint	
std_Fname	varchar(20)	
std_Lname	varchar(20)	
std_DOB	date	X
std_Address	varchar(250)	
std_Mobile	varchar(20)	X
dept_No	smallint	

Uses:

Table dbo.Student

Procedure dbo.selectCourse

Retrieve a specific course by passing its code.

Parameter	Data Type	Default	Is Output
@code	smallint		

Result:

Column	Data Type	Nullable
courseNum	smallint	
courseName	varchar(50)	
courseduration	tinyint	

Uses:

Table dbo.Course

Procedure dbo.selectCourseTopics

Retrieve the topics of a course by passing its code.

Parameter	Data Type	Default	Is Output
@code	smallint		

Result:

Column	Data Type	Nullable
CourseNum	smallint	
Topics	varchar(50)	

Uses:

Table dbo.Course_Topics

Procedure dbo.selectDepartment

Retrieve a department data by passing its number.

Parameter	Data Type	Default	Is Output
@No	smallint		

Result:

Column	Data Type	Nullable
Department Number	smallint	
Name	varchar(50)	
Manager Id	smallint	X
Manager Hire Date	date	X

Uses:

Table dbo.Department

Procedure dbo.selectExam

Retrieve the data of an exam by passing its number.

Parameter	Data Type	Default	Is Output
@examNo	smallint		

Result:

Column	Data Type	Nullable
Exam Number	smallint	
Exam Date	datetime	
Total Marks	smallint	X
Exam Duration	smallint	
Course Code	smallint	

Uses:

    Table dbo.Exam

Procedure dbo.selectExamQuestions

Retrieve the questions in an exam by passing its number.

Parameter	Data Type	Default	Is Output
@examNo	smallint		

Result:

Column	Data Type	Nullable
Exam Number	smallint	
Question Number	smallint	

Uses:

Table dbo.Exam_Questions

Table dbo.Questions

Procedure dbo.selectInstructor

Retrieve the information of instructor by passing his/her ID.

Parameter	Data Type	Default	Is Output
@id	smallint		

Result:

Column	Data Type	Nullable
Instructor ID	smallint	
First Name	varchar(20)	
Last Name	varchar(20)	
Salary	int	
Degree	varchar(50)	X
Department Number	smallint	

Uses:

Table dbo.Instructor

Procedure dbo.selectInstructorCourse

Retrieve all the courses that is beeing taught by an instructor by passing his/her ID.

Parameter	Data Type	Default	Is Output
@inst_Id	smallint		

Result:

Column	Data Type	Nullable
Instructor ID	smallint	
Course ID	smallint	

Uses:

Table dbo.Instructor_Course

Procedure dbo.selectQuestion

Retrieve the data of a question by passing its number.

Parameter	Data Type	Default	Is Output
@no	smallint		

Result:

Column	Data Type	Nullable
Course Code	smallint	
Question Number	smallint	
Type	varchar(10)	
Question	varchar(250)	
Mark	tinyint	
Choice Number	varchar(1)	
Choice	varchar(150)	

Uses:

Table dbo.Question_Choices

Table dbo.Questions

Procedure dbo.selectQuestStudAnswer

Retrieve an answer of a question by passing the ID of the student, exam number and the question number.

Parameter	Data Type	Default	Is Output
@studID	smallint		
@examNumber	smallint		
@questionNumber	smallint		

Result:

Column	Data Type	Nullable
std_Id	smallint	
exam_No	smallint	
quest_No	smallint	
std_Answer	varchar(1)	X
score	smallint	X

Uses:

Table dbo.Student_Answers

Procedure dbo.selectStudent

Retrieve the information of a student by passing his/her ID.

Parameter	Data Type	Default	Is Output
@student_Id	smallint		

Result:

Column	Data Type	Nullable
(No column name)	varchar(29)	

Uses:

Table dbo.Student

Procedure dbo.selectStudentCourse

Retrieve all the courses that the student enrolled in by passing his/her ID.

Parameter	Data Type	Default	Is Output
@stdID	smallint		

Result:

Column	Data Type	Nullable
studentID	smallint	
studentCourse	smallint	
studentGrade	decimal(5,2)	X

Uses:

Table dbo.Student

Table dbo.Student_Course

Procedure dbo.updateCourse

Update the data of a course.

Parameter	Data Type	Default	Is Output
@code	smallint		
@name	varchar(50)		
@duration	tinyint		

Result:

Column	Data Type	Nullable
Error Message	varchar(28)	

Uses:

Table dbo.Course

Procedure dbo.updateCourseTopics

Update a topic name of a course.

Parameter	Data Type	Default	Is Output
@code	smallint		
@oldtpname	varchar(50)		
@newtpname	varchar(50)		

Result:

Column	Data Type	Nullable
Error Message	varchar(96)	

Uses:

Table dbo.Course_Topics

Procedure dbo.updateDepartment

Update the data of a department.

Parameter	Data Type	Default	Is Output
@no	smallint		
@name	varchar(50)		
@mngr_id	smallint		
@mngr_hiredate	date		

Result:

Column	Data Type	Nullable
Error	varchar(37)	

Uses:

Table dbo.Department

Procedure dbo.updateExam

Update the data of an exam.

Parameter	Data Type	Default	Is Output
@examNo	smallint		
@examDate	datetime		
@examDuration	smallint		

Result:

Column	Data Type	Nullable
Error	varchar(31)	

Uses:

Table dbo.Exam

Procedure dbo.updateInstructor

Update the information of an instructor.

Parameter	Data Type	Default	Is Output
@id	smallint		
@Fname	varchar(20)		
@Lname	varchar(20)		
@Salary	int		
@dept_No	smallint		
@Degree	varchar(50)		

Result:

Column	Data Type	Nullable
Error	varchar(29)	

Uses:

      Table dbo.Instructor

Procedure dbo.updateInstructorCourse

Update the instructor who is teaching the course.

Parameter	Data Type	Default	Is Output
@old_inst_Id	smallint		
@new_inst_Id	smallint		
@crs_Code	smallint		

Result:

Column	Data Type	Nullable
Error	varchar(31)	

Uses:

Table dbo.Course

Table dbo.Instructor

Table dbo.Instructor_Course

Procedure dbo.updateQuestion

Update the data of a question.

Parameter	Data Type	Default	Is Output
@no	smallint		
@course	smallint		
@body	varchar(250)		
@answer	varchar(1)		
@mark	tinyint		

Result:

Column	Data Type	Nullable
Error	varchar(35)	

Uses:

Table dbo.Questions

Procedure dbo.updateQuestionChoices

Update a choice of a question.

Parameter	Data Type	Default	Is Output
@no	smallint		
@choice	varchar(1)		
@choiceBody	varchar(150)		

Result:

Column	Data Type	Nullable
Error	varchar(59)	

Uses:

Table dbo.Question_Choices

Procedure dbo.updateStudent

Update the information of a student.

Parameter	Data Type	Default	Is Output
@student_Id	smallint		
@Fname	varchar(20)		
@Lname	varchar(20)		
@DateOB	date		
@Address	varchar(250)		
@mobileNumber	varchar(20)		
@deptNumber	smallint		

Result:

Column	Data Type	Nullable
Error	varchar(23)	

Uses:

Table dbo.Department

Table dbo.Student

Procedure dbo.updateStudentAddress

Update the address of a student.

Parameter	Data Type	Default	Is Output
@student_Id	smallint		
@NewAddress	varchar(250)		

Result:

Column	Data Type	Nullable
(No column name)	varchar(29)	

Uses:

      Table dbo.Student

Procedure dbo.updateStudentAnswer

Update the student answer on a question in an exam.

Parameter	Data Type	Default	Is Output
@studID	smallint		
@examNumber	smallint		
@questionNumber	smallint		
@studAnswer	varchar(1)		

Result:

Column	Data Type	Nullable
Error	varchar(22)	

Used by:

Procedure dbo.ExamAnswers

Uses:

Table dbo.Questions

Table dbo.Student_Answers

Procedure dbo.updateStudentCourseGrade

Update the grade of the student in a course.

Parameter	Data Type	Default	Is Output
@stdID	smallint		
@crsCode	smallint		
@grade	decimal(5,2)		

Result:

Column	Data Type	Nullable
Error Message	varchar(62)	

Uses:

Table dbo.Course

Table dbo.Student

Table dbo.Student_Course

Procedure dbo.updateStudentDepartment

Update the department of the student.

Parameter	Data Type	Default	Is Output
@student_Id	smallint		
@newDeptNumber	smallint		

Result:

Column	Data Type	Nullable
(No column name)	varchar(37)	

Uses:

Table dbo.Department

Table dbo.Student

Procedure dbo.updateStudentDOB

Update the date of birth of the student.

Parameter	Data Type	Default	Is Output
@student_Id	smallint		
@newDOB	date		

Result:

Column	Data Type	Nullable
(No column name)	varchar(29)	

Uses:

Table dbo.Student

Procedure dbo.updateStudentMobile

Update the mobile number of the student.

Parameter	Data Type	Default	Is Output
@student_Id	smallint		
@newMobileNumber	varchar(20)		

Result:

Column	Data Type	Nullable
(No column name)	varchar(37)	

Uses:

Table dbo.Student

Procedure dbo.updateStudentName

Update the name of the student.

Parameter	Data Type	Default	Is Output
@student_Id	smallint		
@newFname	varchar(20)		
@newLname	varchar(20)		

Result:

Column	Data Type	Nullable
(No column name)	varchar(32)	

Uses:

Table dbo.Student