Examination System Project Documentation

Examination System

This an examination system which generates an exam randomly for each student and correct the student answer according to model answer then calculate the final grade for the student.

This system contains several features...

1) Like generating two types of questions (true & false – MCQ)

2)Each exam consists of 10 questions that would be distributed randomly as a True & false or MCQ question.

3)System calculate student point according to its answer either it is true or false then add the resultto the final grade.

4)we applied different reports according to student, course , instructor ,exam and topic that wouldhelp mangers to improve education process and now more insights about his academy.

5)Generate dashboard that show an analysis of student's social media accounts.

Now let's go in details and show our tools and platforms ...

1)we used SQL server 2016 to create database and build stored procedures and queries.

2)Power BI Desktop & Power BI report Service to publish reports and build a smart dashboardthat show analysis of student.

3)social media accounts (Power BI (Graph API is used))
4)SSRS to build other reports.

Users:

 Student: -Is assigned to a branch and a department
-Can take courses and answers exams and their questions

-Can display his/her grades

Teachers: - Works at a department
-Can manage a department
-Teaches courses
-Can generate exams

Main Entities:
Course: -Has topics and exams -Has related questions
Departments: -Has assigned instructors, students
Exam: -Generated by instructors -Answered by student -Related to courses and questions

System Flows:
The flow of question generation is as follows:
1. Instructor generates an exam with a specific number of TF and MCQ questions (10-50) .

2. The exam ID is generated and saved in the exam table with the instructor ID and date

3. The corresponding questions are randomly taken from the questions table and put into the part of (question_Exam) table with the corresponding exam ID and question ID

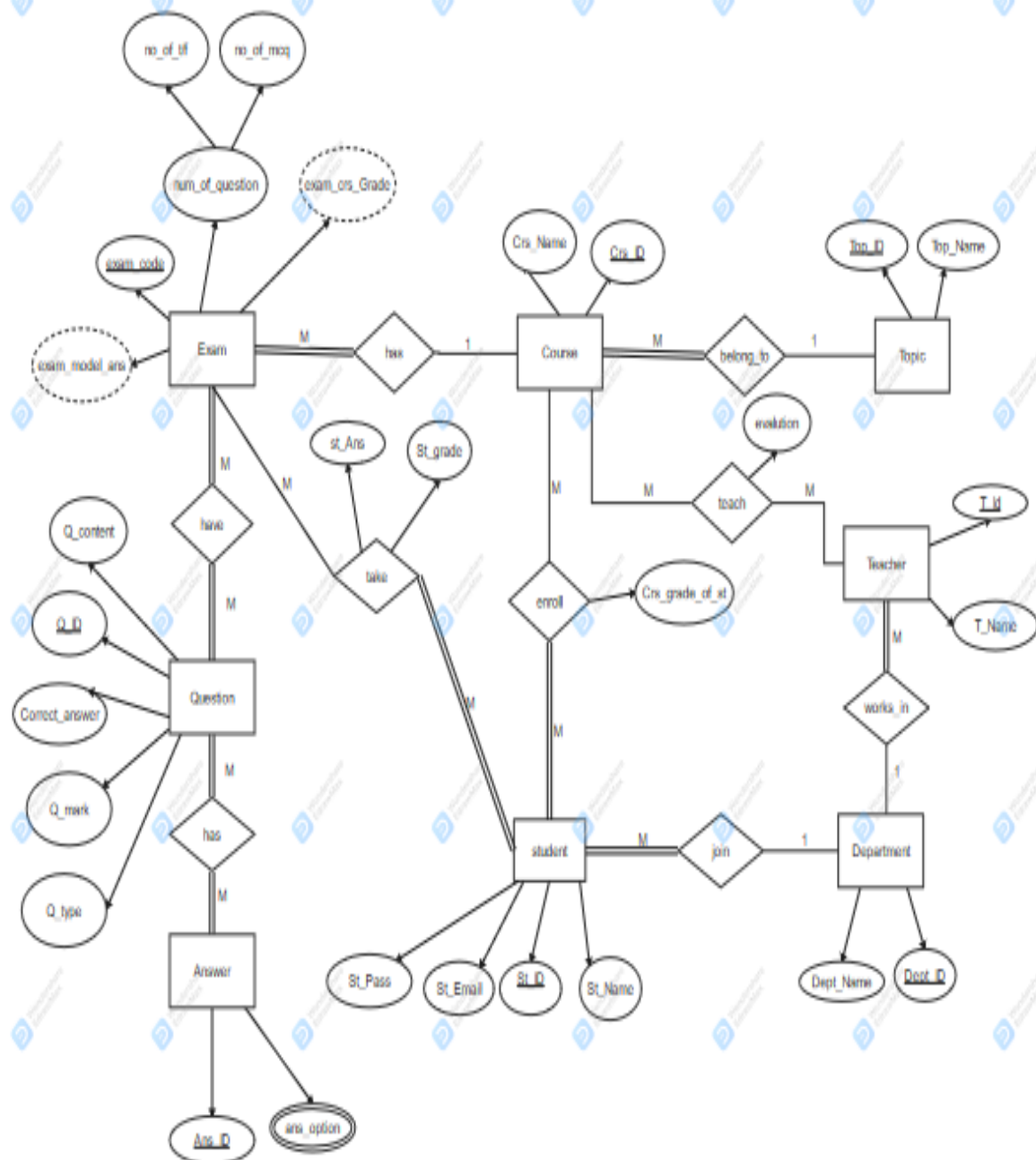### The flow of student answering is as follows:
1. Student answers exam's questions which gets stored in answers table
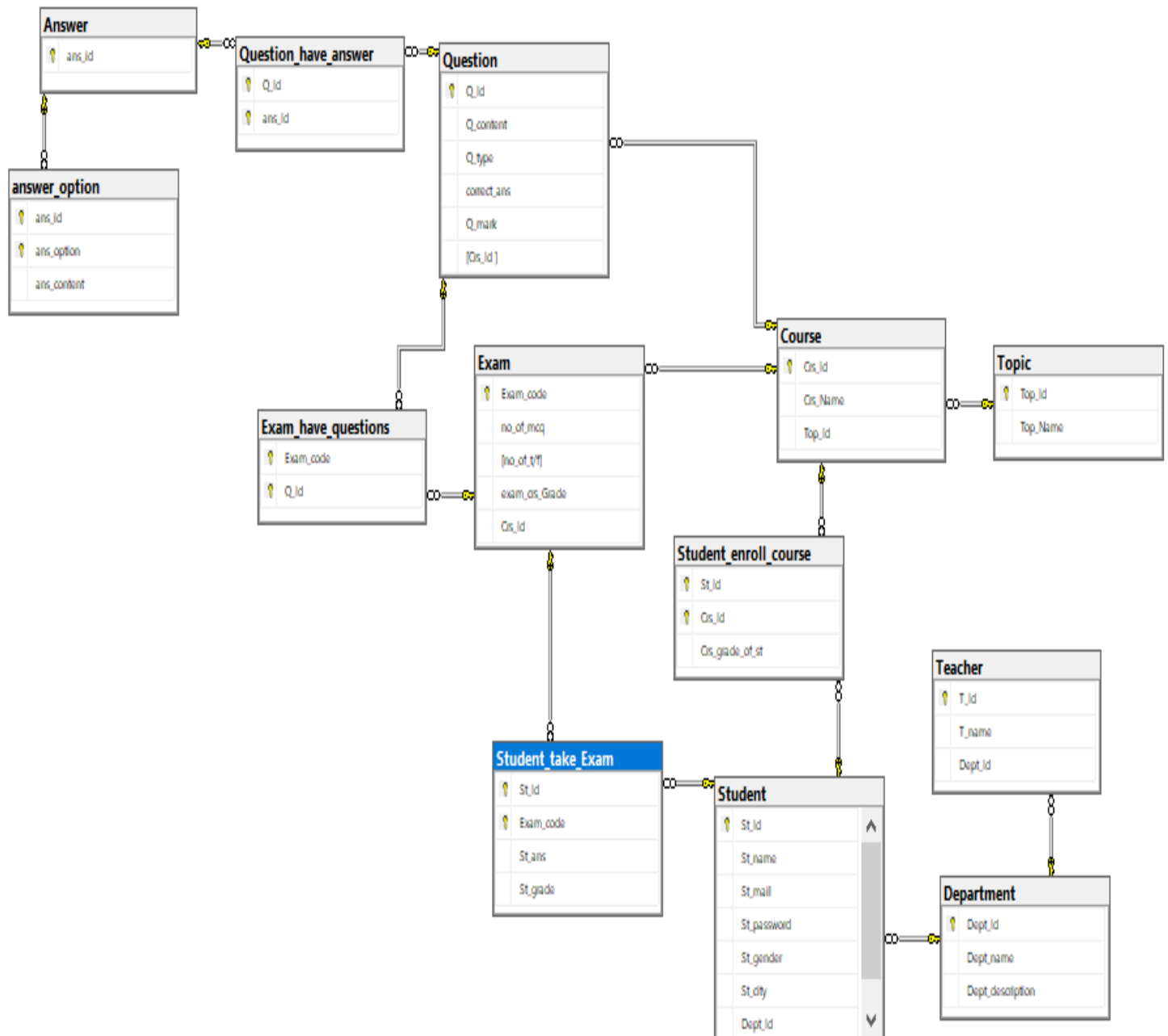
General Flow:
1. Instructor generates exam as explained above
2. Student answers exam as explained above

System Schema :

Database Diagram:

Answer
- ans_Id

Question_have_answer
- Q_Id
- ans_Id

Question
- Q_Id
- Q_content
- Q_type
- correct_ans
- Q_mark
- [Crs_Id]

answer_option
- ans_Id
- ans_option
- ans_content

Exam
- Exam_code
- no_of_mcq
- [no_of_t/f]
- exam_crs_Grade
- Crs_Id

Course
- Crs_Id
- Crs_Name
- Top_Id

Topic
- Top_Id
- Top_Name

Exam_have_questions
- Exam_code
- Q_Id

Student_enroll_course
- St_Id
- Crs_Id
- Crs_grade_of_st

Teacher
- T_Id
- T_name
- Dept_Id

Student_take_Exam
- St_Id
- Exam_code
- St_ans
- St_grade

Student
- St_Id
- St_name
- St_mail
- St_password
- St_gender
- St_city
- Dept_Id

Department
- Dept_Id
- Dept_name
- Dept_description

Legend

- 🔑 Primary key
- 🔑 Primary key disabled
- 🔑 User-defined primary key
- 🔑 Unique key
- 🔑 Unique key disabled
- 🔑 User-defined unique key
- ⚡ Active trigger
- ⚡ Disabled trigger
- ⟩— Many to one relation
- ⟩— User-defined many to one relation
- —⟨ One to many relation
- —⟨ User-defined one to many relation
- ⟩⟨ Many to many relation
- ⟩⟨ User-defined many to many relation
- — One to one relation
- ⟶ User-defined one to one relation
- @ Input
- @ Output
- @ Input/Output
- 🗔 Uses dependency
- 🗔 User-defined uses dependency
- 🗔 Used by dependency
- 🗔 User-defined used by dependency

1) Tables:

Name	Schema	Description	Columns	Rows
Answer	dbo		1	81
answer_option	dbo		3	322
Course	dbo		3	9
Department	dbo		3	4
Exam	dbo		5	0
Exam_have_questions	dbo		2	0
Question	dbo		6	160
Question_have_answer	dbo		2	160
Student	dbo		7	12
Student_enroll_course	dbo		3	24
Student_take_Exam	dbo		4	0
Teacher	dbo		3	9
Techer_tech_course	dbo		3	8
Topic	dbo		2	4

1.1-Answer Table:

	Name	Description	Data type	Max length	Nullable
	ans_id		int	4	✖

Index	Key columns	Description	Primary	Unique	Size KB	Fill factor
PK_Answer	ans_id		✔	✔	16	0

◁ Referencing tables

Table	Foreign key	Primary key or unique constraint
answer_option	FK_answer_option _Answer	PK_Answer
Question_have_answer	FK_Question_have_answer _Answer	PK_Answer

Question_have_answer
| Q_Id | int | PFK |
| ans_Id | int | PFK |

— FK_Question_have_answer _Answer

Answer
| ans_id | int | PK |

answer_option
ans_id	int	PFK
ans_option	nvarchar(5)	PK
ans_content	text	N

— FK_answer_option _Answer
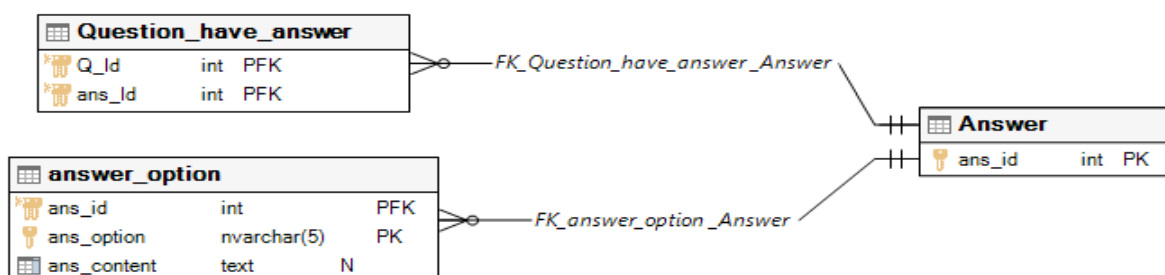
1.2-Answer_Option Table:

		Name	Description	Data type	Max length	Nullable
	🔑	ans_id		int	4	✖
		ans_option		nvarchar	5	✖
		ans_content		text	2147483647	✔

Index	Key columns	Description	Primary	Unique	Size KB	Fill factor
[PK_answer_option]	ans_id, ans_option		✔	✔	32	0

◢ Referenced tables

Table	Primary key or unique constraint	Foreign key
Answer	PK_Answer	FK_answer_option _Answer
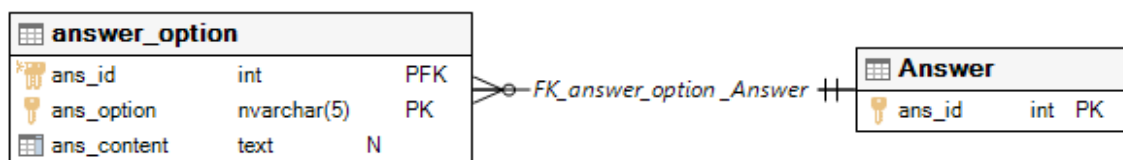
1.3-Course Table:

			Name	Description	Data type	Max length	Nullable
	◉		Crs_Id		int	4	✖
			Crs_Name		nvarchar	50	✔
		🔑	Top_Id		int	4	✖

Index	Key columns	Description	Primary	Unique	Size KB	Fill factor
PK_Course	Crs_Id		✔	✔	16	0

◢ Referencing tables

Table	Foreign key	Primary key or unique constraint
Techer_tech_course	FK_Techer_tech_course _Course	PK_Course
Exam	FK_Exam _Course	PK_Course
Question	FK_Question_Course	PK_Course
Student_enroll_course	FK_Student_enroll_course _Course	PK_Course

Referenced tables

Table	Primary key or unique constraint	Foreign key
Topic	PK_Topic	FK_Course_Topic

Student_enroll_course
St_Id	int	PFK	
Crs_Id	int	PFK	
Crs_grade_of_st	int	N	

FK_Student_enroll_course _Course

Question
Q_Id	int		PK
Q_content	text		
Q_type	nvarchar(15)		
correct_ans	nvarchar(5)		
Q_mark	int	N	
Crs_Id	int		FK

FK_Question_Course

Exam
Exam_code	nvarchar(50)		PK
no_of_mcq	int	N	
no_of_t/f	int	N	
exam_crs_Grade	int	N	
Crs_Id	int		FK

FK_Exam _Course

Course
Crs_Id	int		PK
Crs_Name	nvarchar(50)	N	
Top_Id	int		FK

FK_Course_Topic

Topic
Top_Id	int		PK
Top_Name	nvarchar(25)		

Techer_tech_course
T_Id	int	PFK	
Crs_Id	int	PFK	
evaluation	int	N	

FK_Techer_tech_course _Course

Objects that depend on Course

Object name	Object type	Dep level
qet_crs_by_topic	Procedure	1
get_topic_by_crs	Procedure	1
Getcrs_st_by_ins	Procedure	1
Getst_grade	Procedure	1
Exam	Table	1
Question	Table	1
Student_enroll_course	Table	1
Techer_tech_course	Table	1

Objects that Course depends on

Object name	Object type	Dep level
Topic	Table	1

1.4-Department Table:

		Name	Description	Data type	Max length	Nullable
		Dept_Id		int	4	✖
		Dept_name		nvarchar	10	✔
		Dept_description		nvarchar	25	✔

Index	Key columns	Description	Primary	Unique	Size KB	Fill factor
PK_Department	Dept_Id		✔	✔	16	0

◢ Referencing tables

Table	Foreign key	Primary key or unique constraint
Teacher	FK_Teacher_Department	PK_Department
Student	FK_Student _Department	PK_Department
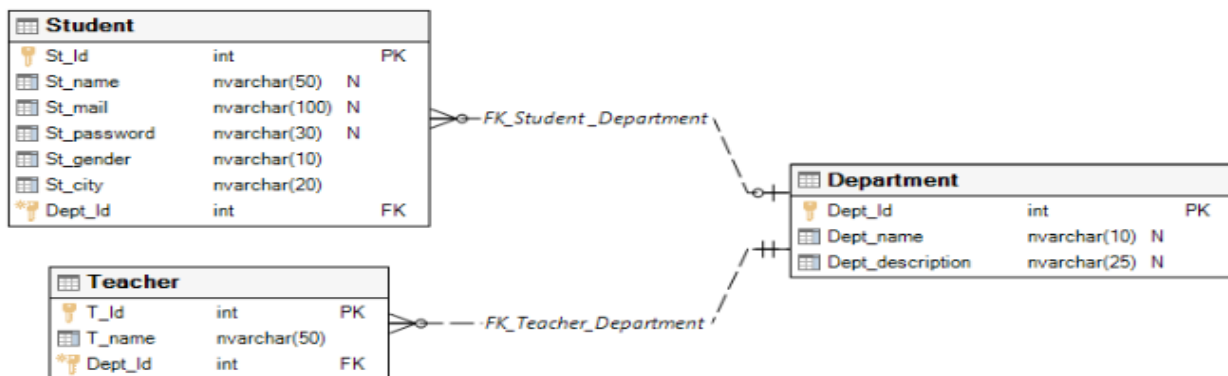
◢ Objects that depend on Department

Object name	Object type	Dep level
Getst_by_dept	Procedure	1
Student	Table	1
Teacher	Table	1

◢ Objects that Course depends on

Object name	Object type	Dep level
Topic	Table	1

1.5-Exam Table:

		Name	Description	Data type	Max length	Nullable
		Exam_code		nvarchar	50	✖
		no_of_mcq		int	4	✔
		no_of_t/f		int	4	✔
		exam_crs_Grade		int	4	✔
		Crs_Id		int	4	✖

Index	Key columns	Description	Primary	Unique	Size KB	Fill factor
[PK_Exam]	Exam_code		✔	✔	0	0

Table	Foreign key	Primary key or unique constraint
Exam_have_questions	FK_Exam_have_questions _Exam	PK_Exam
Student_take_Exam	FK_Student_take_Exam _Exam	PK_Exam

◢ Referenced tables

Table	Primary key or unique constraint	Foreign key
Course	PK_Course	FK_Exam _Course
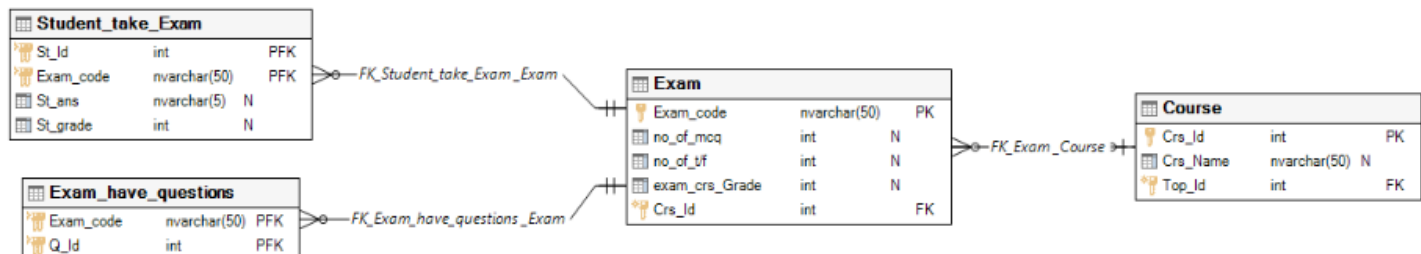
◢ Objects that depend on Exam

Object name	Object type	Dep level
Exam_have_questions	Table	1
Student_take_Exam	Table	1

◢ Objects that Exam depends on

Object name	Object type	Dep level
Course	Table	1

1.6-Exam_have_questions Table:

		Name	Description	Data type	Max length	Nullable
	🔑	Exam_code		nvarchar	50	✖
	🔑	Q_Id		int	4	✖

Index	Key columns	Description	Primary	Unique	Size KB	Fill factor
[PK_Exam_have_questions]	Exam_code, Q_Id		✔	✔	0	0

◢ Referenced tables

Table	Primary key or unique constraint	Foreign key
Exam	PK_Exam	FK_Exam_have_questions _Exam
Question	PK_Question	FK_Exam_have_questions _Question
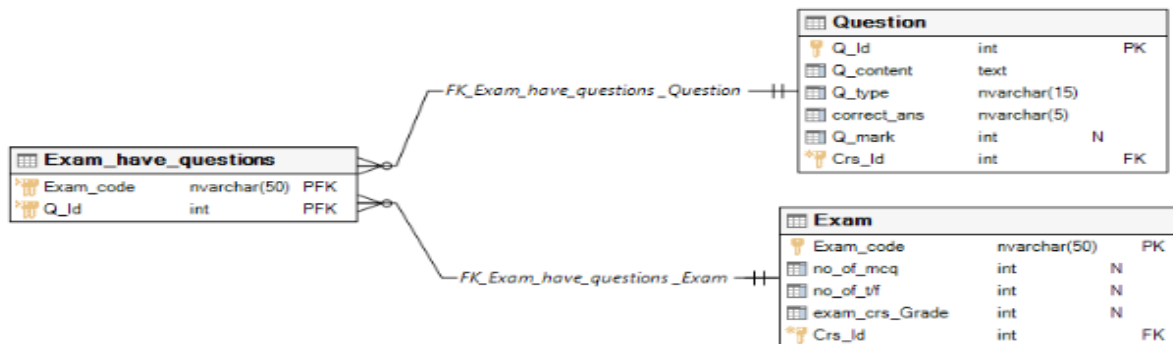
◢ Objects that Exam_have_questions depends on

Object name	Object type	Dep level
Exam	Table	1
Question	Table	1

1.7-Question Table:

		Name	Description	Data type	Max length	Nullable
		Q_Id		int	4	✖
		Q_content		text	2147483647	✖
		Q_type		nvarchar	15	✖
		correct_ans		nvarchar	5	✖
		Q_mark		int	4	✔
	🔑	Crs_Id		int	4	✖

Index	Key columns	Description	Primary	Unique	Size KB	Fill factor
PK_Question	Q_Id		✓	✓	32	0

⊿ Check constraints

Name	Expression
c4	([Q_type]='true/false' OR [Q_type]='T,F' OR [Q_type]='T/F' OR [Q_type]='Mcq')

⊿ Referencing tables

Table	Foreign key	Primary key or unique constraint
Question_have_answer	FK_Question_have_answer_Question	PK_Question
Exam_have_questions	FK_Exam_have_questions_Question	PK_Question

⊿ Referenced tables

Table	Primary key or unique constraint	Foreign key
Course	PK_Course	FK_Question_Course
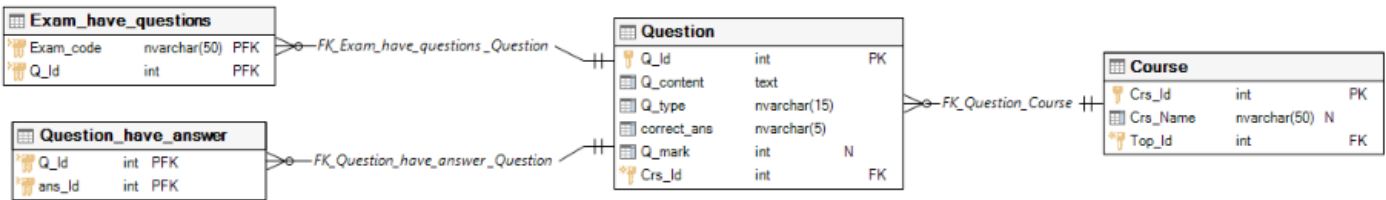
⊿ Objects that depend on Question

Object name	Object type	Dep level
Exam_have_questions	Table	1
Question_have_answer	Table	1

⊿ Objects that Question depends on

Object name	Object type	Dep level
Course	Table	1

1.8-Question_have_answer Table:

		Name	Description	Data type	Max length	Nullable
🔳	🗝	Q_Id		int	4	✘
🔳	🗝	ans_Id		int	4	✘

Index	Key columns	Description	Primary	Unique	Size KB	Fill factor
[PK_Question_have_answer]	Q_Id, ans_Id		✔	✔	16	0

Referenced tables

Table	Primary key or unique constraint	Foreign key
Answer	PK_Answer	FK_Question_have_answer _Answer
Question	PK_Question	FK_Question_have_answer _Question

Question

Q_Id	int	PK
Q_content	text	
Q_type	nvarchar(15)	
correct_ans	nvarchar(5)	
Q_mark	int	N
Crs_Id	int	FK

FK_Question_have_answer _Question

Question_have_answer

Q_Id	int	PFK
ans_Id	int	PFK

FK_Question_have_answer _Answer

Answer

ans_id	int	PK
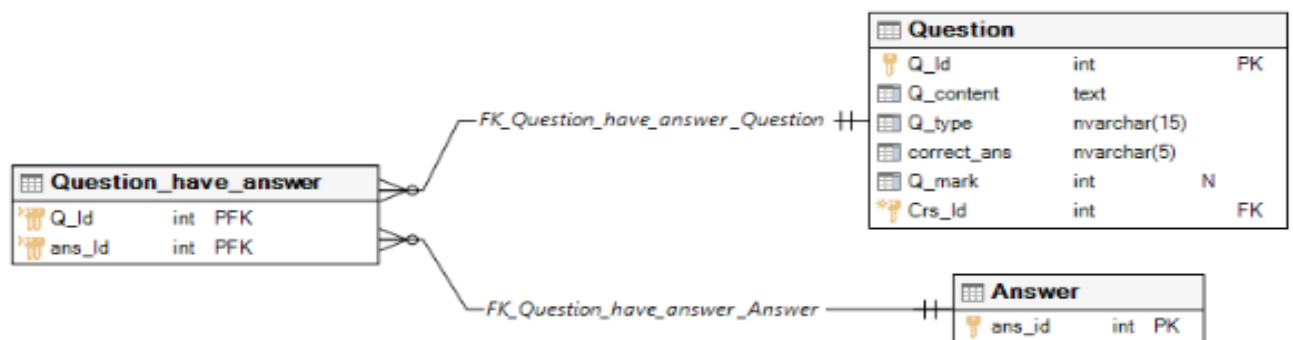
Objects that Question_have_answer depends on

Object name	Object type	Dep level
Answer	Table	1
Question	Table	1

1.9-Student Table :

		Name	Description	Data type	Max length		Nullable
		St_Id		int	4		✖
		St_name		nvarchar	50		✔
		St_mail		nvarchar	100		✔
		St_password		nvarchar	30		✔
		St_gender		nvarchar	10		✖
		St_city		nvarchar	20		✖
		Dept_Id		int	4		✖

Index	Key columns	Description	Primary	Unique	Size KB	Fill factor
[PK_Student]	St_Id		✔	✔	16	0

Check constraints

Name	Expression
c3	([st_mail] like '%__@__%._%')
c5	([st_gender]='f' OR [st_gender]='m')

Referencing tables

Table	Foreign key	Primary key or unique constraint
Student_enroll_course	FK_Student_enroll_course _Student	PK_Student
Student_take_Exam	FK_Student_take_Exam _Student	PK_Student

Total: 2 table(s)

Referenced tables

Table	Primary key or unique constraint	Foreign key
Department	PK_Department	FK_Student _Department
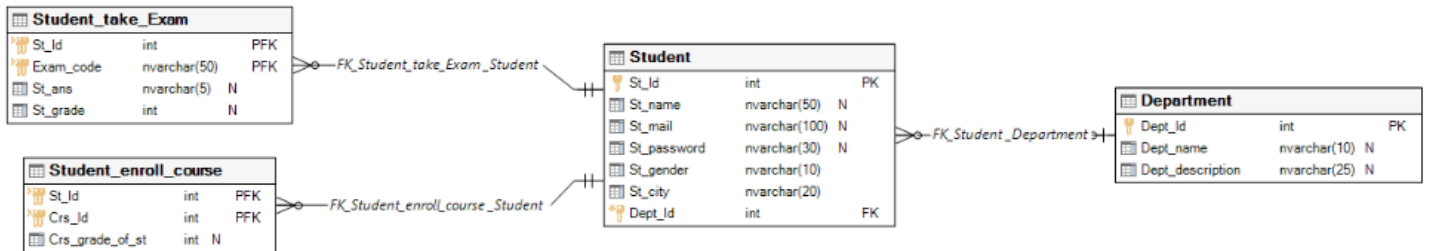
Object name	Object type	Dep level
deletest	Procedure	1
Getcrs_st_by_ins	Procedure	1
Getst_by_dept	Procedure	1
Getst_grade	Procedure	1
insertst	Procedure	1
updatest	Procedure	1
Student_enroll_course	Table	1
Student_take_Exam	Table	1

Objects that Student depends on

Object name	Object type	Dep level
Department	Table	1

1.10-Student_enroll_course Table:

		Name	Description	Data type	Max length	Nullable
		St_Id		int	4	✖
		Crs_Id		int	4	✖
		Crs_grade_of_st		int	4	✔

Index	Key columns	Description	Primary	Unique	Size KB	Fill factor
[PK_Student_enroll_course]	St_Id, Crs_Id		✔	✔	16	0

Total: 1 Index/indexes

◢ Columnstore indexes

No columnstore indexes exist

◢ Referenced tables

Table	Primary key or unique constraint	Foreign key
Course	PK_Course	FK_Student_enroll_course _Course
Student	PK_Student	FK_Student_enroll_course _Student
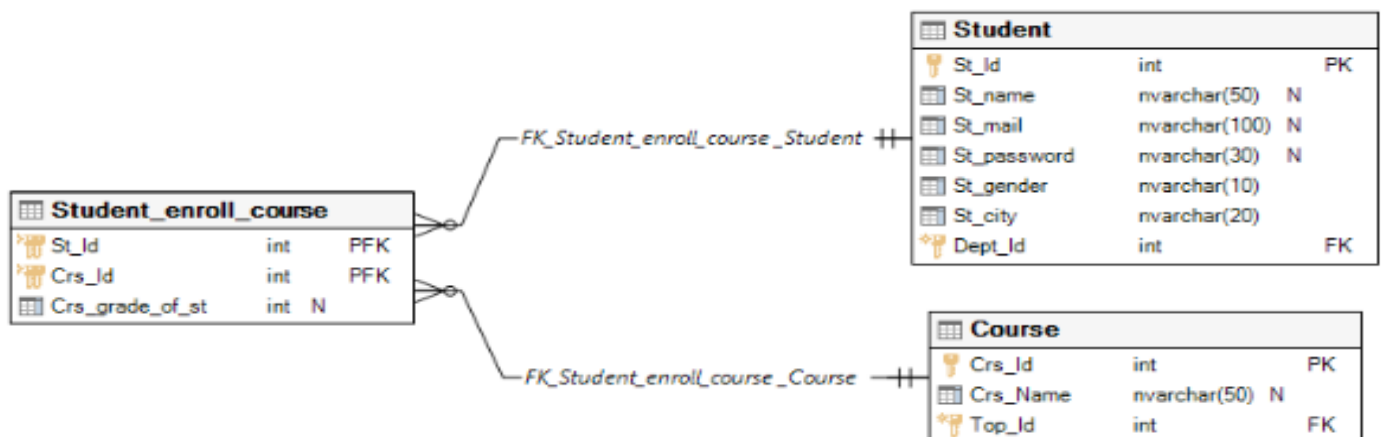
◢ Objects that depend on Student_enroll_course

Object name	Object type	Dep level
Getcrs_st_by_ins	Procedure	1
Getst_grade	Procedure	1

Total 2 object(s)

◢ Objects that Student_enroll_course depends on

Object name	Object type	Dep level
Course	Table	1
Student	Table	1

1.11-Student_take_Exam Table:

		Name	Description	Data type	Max length	Nullable
	⚷	St_Id		int	4	✖
	⚷	Exam_code		nvarchar	50	✖
		St_ans		nvarchar	5	✔
		St_grade		int	4	✔

Index	Key columns	Description	Primary	Unique	Size KB	Fill factor
PK_Student_take_Exam	St_Id, Exam_code		✔	✔	0	0

▵ Check constraints

Name	Expression
c1	([st_ans]='e' OR [st_ans]='d' OR [st_ans]='c' OR [st_ans]='b' OR [st_ans]='a')
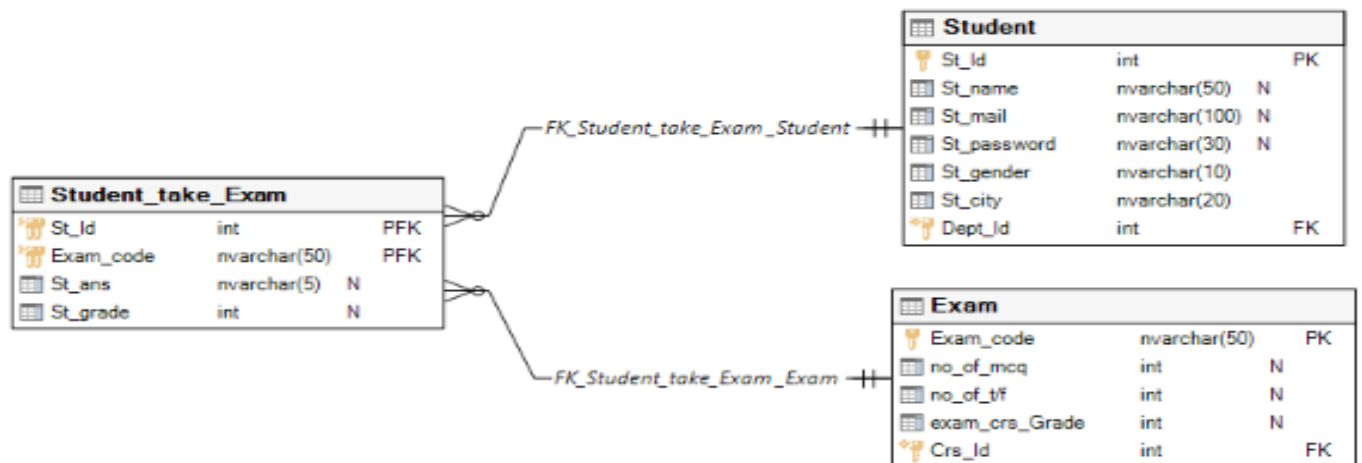
Object name	Object type	Dep level
Exam	Table	1
Student	Table	1

1.12-Teacher Table:

Index	Key columns	Description	Primary	Unique	Size KB	Fill factor
[PK_Teacher$]	T_Id		✔	✔	16	0
	T_Id	int	4			✖

▲ Referencing tables

Table	Foreign key	Primary key or unique constraint
Techer_tech_course	FK_Techer_tech_course _Teacher	PK_Teacher$

Total: 1 table(s)

▲ Referenced tables

Table	Primary key or unique constraint	Foreign key
Department	PK_Department	FK_Teacher_Department

▷ Objects that depend on Teacher

Object name	Object type	Dep level
Getcrs_st_by_ins	Procedure	1
Techer_tech_course	Table	1

Total 2 object(s)

▷ Objects that Teacher depends on

Object name	Object type	Dep level
Department	Table	1

1.13-Techer_tech_course Table:

		Name	Description	Data type	Max length	Nullable
	⚷	T_Id		int	4	✖
	⚷	Crs_Id		int	4	✖
		evaluation		int	4	✔

Index	Key columns	Description	Primary	Unique	Size KB	Fill factor

▲ Check constraints

Name	Expression
c2	([evaluation]=(5) OR [evaluation]=(4) OR [evaluation]=(3) OR [evaluation]=(2) OR [evaluation]=(1))

▲ Referenced tables

Table	Primary key or unique constraint	Foreign key
Teacher	PK_Teacher$	FK_Techer_tech_course _Teacher
Course	PK_Course	FK_Techer_tech_course _Course
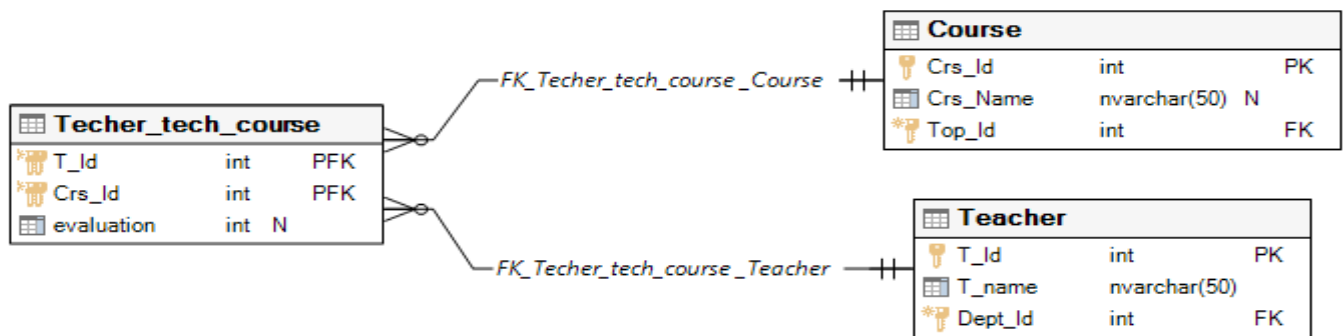
Object name	Object type	Dep level
Getcrs_st_by_ins	Procedure	1

Total 1 object(s)

Objects that Techer_tech_course depends on

Object name	Object type	Dep level
Course	Table	1
Teacher	Table	1

1.14-Topic Table :

		Name	Description	Data type	Max length	Nullable
		Top_Id		int	4	✖
		Top_Name		nvarchar	25	✖

Index	Key columns	Description	Primary	Unique	Size KB	Fill factor
PK_Topic	Top_Id		✔	✔	16	0
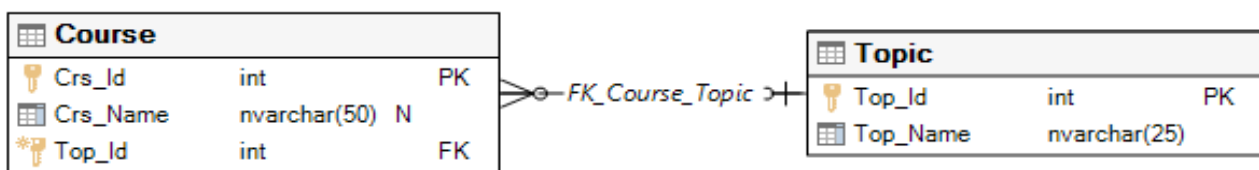
Objects that depend on Topic

Object name	Object type	Dep level
get_crs_by_topic	Procedure	1
get_topic_by_crs	Procedure	1
Course	Table	1

2)Procedure:

Name	Schema	Description	Input	Output	Encrypted	Creation date
delete_ans_option	dbo		2	0	✖	06/21/2021
deleteans	dbo		1	0	✖	06/21/2021
deletecrs	dbo		1	0	✖	06/21/2021
deletedept	dbo		1	0	✖	06/22/2021
deleteinst	dbo		1	0	✖	06/21/2021
deletequestion	dbo		1	0	✖	06/21/2021
deletest	dbo		1	0	✖	06/20/2021
deletest_enroll_crs	dbo		2	0	✖	06/20/2021
deletest_take_exam	dbo		4	0	✖	06/21/2021
deleteteacher_teach_course	dbo		2	0	✖	06/22/2021
deletetopic	dbo		1	0	✖	06/22/2021
examanswers	dbo		4	0	✖	06/25/2021
examcorrection	dbo		2	0	✖	06/25/2021
examgeneration	dbo		3	1	✖	06/22/2021
get_crs_by_topic	dbo		1	0	✖	06/19/2021
get_topic_by_crs	dbo		1	0	✖	06/19/2021
getall_st_take_exam_noinfo	dbo		0	0	✖	06/21/2021
Getcrs_st_by_ins	dbo		1	0	✖	06/19/2021
getexam_question	dbo		1	0	✖	06/23/2021
getexam_question_only	dbo		1	0	✖	06/25/2021
getquestion	dbo		0	0	✖	06/21/2021
getquestions_for_exam	dbo		3	0	✖	06/22/2021
getqusetion_with_ansoption	dbo		0	0	✖	06/21/2021
getqustion_for_crs	dbo		0	0	✖	06/21/2021
getst_ans_exam	dbo		2	0	✖	06/25/2021
Getst_by_dept	dbo		1	0	✖	06/19/2021
Getst_by_dept_noparam	dbo		0	0	✖	06/27/2021
Getst_grade	dbo		1	0	✖	06/19/2021
insertans	dbo		1	0	✖	06/21/2021
insertans_option	dbo		3	0	✖	06/21/2021
insertcrs	dbo		2	0	✖	06/21/2021
insertdept	dbo		3	0	✖	06/22/2021
insertexam	dbo		3	1	✖	06/23/2021
insertinst	dbo		2	0	✖	06/21/2021
insertquestion	dbo		4	0	✖	06/21/2021
insertst	dbo		4	0	✖	06/20/2021
insertst_enroll_courses	dbo		3	0	✖	06/20/2021

insertst_take_exam	dbo		4	0	✖	06/20/2021
insertteacher_teach_course	dbo		3	0	✖	06/21/2021
inserttopic	dbo		2	0	✖	06/22/2021
selectallcourses	dbo		0	0	✖	06/21/2021
selectalldept	dbo		0	0	✖	06/22/2021
selectallteacher	dbo		0	0	✖	06/21/2021
selectalltopic	dbo		0	0	✖	06/22/2021
selectans_with_option	dbo		0	0	✖	06/21/2021
selectst	dbo		0	0	✖	06/20/2021
selectst_enroll_courses	dbo		0	0	✖	06/20/2021
selectst_take_exam	dbo		0	0	✖	06/20/2021
selectteacher_teach_course	dbo		0	0	✖	06/21/2021
update_ans_option	dbo		3	0	✖	06/21/2021
update_st_crs_grade	dbo		3	0	✖	06/25/2021
updatecrs	dbo		3	0	✖	06/21/2021
updatedept	dbo		4	0	✖	06/22/2021
updateinst	dbo		3	0	✖	06/21/2021
updatequestion	dbo		3	0	✖	06/21/2021
updatest	dbo		3	0	✖	06/20/2021
updatest_enroll_courses	dbo		4	0	✖	06/20/2021
updatest_take_exam	dbo		5	0	✖	06/20/2021
updateteacher_teach_course	dbo		5	0	✖	06/21/2021
updatetopic	dbo		2	0	✖	06/22/2021

2.1- Delete_ans_option Procedure:

Name	Description	Datatype	Max length	Type	ReadOnly
@ansid		int	4	Input	✖
@ansopt		nvarchar	2	Input	✖

⊿ Objects that delete_ans_option depends on

Object name	Object type	Dep level
answer_option	Table	1

2.2- Deleteans Procedure:

⊿ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@ansid		int	4	Input	✖

⊿ Objects that deleteans depends on

Object name	Object type	Dep level
Answer	Table	1

2.3-Deletecrs Procedure:

⊿ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@crsid		int	4	Input	✖

⊿ Objects that deletecrs depends on

Object name	Object type	Dep level
Course	Table	1

2.4- Deletedept Procedure:

⊿ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@did		int	4	Input	✖

⊿ Objects that deletedept depends on

Object name	Object type	Dep level
Department	Table	1

2.5- Deleteinst Procedure:

⊿ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@teacherid		int	4	Input	✖

⊿ Objects that deleteinst depends on

Object name	Object type	Dep level
Teacher	Table	1

2.6- Deletequestion Procedure:

⊿ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@qid		int	4	Input	✖

⊿ Objects that deletequestion depends on

Object name	Object type	Dep level
Question	Table	1

2.7- Deletest Procedure:

⊿ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@sid		int	4	Input	✖

⊿ Objects that deletest depends on

Object name	Object type	Dep level
Student	Table	1

2.8-Deletest_enroll_crs Procedure:

⊿ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@sid		int	4	Input	✖
@crsid		int	4	Input	✖

⊿ Objects that deletest_enroll_crs depends on

Object name	Object type	Dep level
Student_enroll_course	Table	1

2.9-Deletest_take_exam Procedure:

⊿ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@sid		int	4	Input	✖
@examcode		nvarchar	20	Input	✖
@qid		int	4	Input	✖
@st_ans		nvarchar	3	Input	✖

⊿ Objects that deletest_take_exam depends on

Object name	Object type	Dep level
Student_take_Exam	Table	1

2.10-Deleteteacher_teach_course Procedure:

⊿ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@crs_id		int	4	Input	✖
@t_id		int	4	Input	✖

⊿ Objects that deleteteacher_teach_course depends on

Object name	Object type	Dep level
Teacher_tech_course	Table	1

2.11-Deletetopic Procedure:

◢ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@topid		int	4	Input	✖

◢ Objects that deletetopic depends on

Object name	Object type	Dep level
Topic	Table	1

2.12-Examanswers Procedure:

◢ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@examcode		nvarchar	25	Input	✖
@stid		int	4	Input	✖
@qno		int	4	Input	✖
@qans		nvarchar	2	Input	✖

◢ Objects that examanswers depends on

Object name	Object type	Dep level
getexam_question	Procedure	1
Exam_have_questions	Table	1
Student	Table	1
Student_take_Exam	Table	1

2.13- Examcorrection Procedure:

◢ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@examcode		nvarchar	25	Input	✖
@stid		int	4	Input	✖

◢ Objects that examcorrection depends on

Object name	Object type	Dep level
Exam	Table	1
Exam_have_questions	Table	1
Question	Table	1
Student_take_Exam	Table	1

2.14- Examgeneration Procedure:

⊿ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@crsname		nvarchar	25	Input	✖
@mcqno		int	4	Input	✖
@t_fno		int	4	Input	✖
@examcode		nvarchar	20	Input/output or output	✖

⊿ Objects that examgeneration depends on

Object name	Object type	Dep level
getquestions_for_exam	Procedure	1
insertexam	Procedure	1
Course	Table	1
Exam	Table	1
Exam_have_questions	Table	1
Question	Table	1

2.15- Get_crs_by_topic Procedure:

⊿ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@tid		int	4	Input	✖

⊿ Objects that get_crs_by_topic depends on

Object name	Object type	Dep level
Course	Table	1
Topic	Table	1

2.16- Get_topic_by_crs Procedure:

⊿ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@cid		int	4	Input	✖

⊿ Objects that get_topic_by_crs depends on

Object name	Object type	Dep level
Course	Table	1
Topic	Table	1

2.17- Getall_st_take_exam_noinfo Procedure:

⊿ Objects that getall_st_take_exam_noinfo depends on

Object name	Object type	Dep level
Student_take_Exam	Table	1

2.18- Getcrs_st_by_ins Procedure:

⊿ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@insid		int	4	Input	✖

⊿ Objects that Getcrs_st_by_ins depends on

Object name	Object type	Dep level
Course	Table	1
Student	Table	1
Student_enroll_course	Table	1
Teacher	Table	1
Teacher_tech_course	Table	1

2.20- Getexam_question Procedure:

⊿ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@examcode		nvarchar	25	Input	✖

⊿ Objects that depend on getexam_question

Object name	Object type	Dep level
examanswers	Procedure	1

Total 1 object(s)

⊿ Objects that getexam_question depends on

Object name	Object type	Dep level
answer_option	Table	1
Exam_have_questions	Table	1
Question	Table	1
Question_have_answer	Table	1

2.21- Getexam_question_only Procedure:

◿ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@examcode		nvarchar	25	Input	✖

◿ Objects that getexam_question_only depends on

Object name	Object type	Dep level
Exam_have_questions	Table	1
Question	Table	1

2.22- Getquestion Procedure:

◿ Objects that getquestion depends on

Object name	Object type	Dep level
Question	Table	1

2.23- Getquestions_for_exam:

◿ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@crsid		int	4	Input	✖
@mcqno		int	4	Input	✖
@t_fno		int	4	Input	✖

◿ Objects that depend on getquestions_for_exam

Object name	Object type	Dep level
examgeneration	Procedure	1

Total 1 object(s)

◿ Objects that getquestions_for_exam depends on

Object name	Object type	Dep level
Question	Table	1

2.24-Getqusetion_with_ansoption procedure:

⊿ Objects that getqusetion_with_ansoption depends on

Object name	Object type	Dep level
Answer	Table	1
answer_option	Table	1
Question	Table	1
Question_have_answer	Table	1

2.25- Getqustion_for_crs procedure:

⊿ Objects that getqustion_for_crs depends on

Object name	Object type	Dep level
Course	Table	1
Question	Table	1

2.26-Getst_ans_exam procedure:

⊿ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@examcode		nvarchar	25	Input	✖
@stid		int	4	Input	✖

⊿ Objects that getst_ans_exam depends on

Object name	Object type	Dep level
Question	Table	1
Student_take_Exam	Table	1

2.27- Getst_by_dept procedure:

⊿ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@did		int	4	Input	✖

⊿ Objects that Getst_by_dept depends on

Object name	Object type	Dep level
Department	Table	1
Student	Table	1

2.28- Getst_by_dept_noparam procedure:

◢ Objects that Getst_by_dept_noparam depends on

Object name	Object type	Dep level
Department	Table	1
Student	Table	1

2.29- Insertans procedure:

◢ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@ansid		int	4	Input	✖

◢ Objects that insertans depends on

Object name	Object type	Dep level
Answer	Table	1

2.30- Insertans_option procedure:

◢ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@ansid		int	4	Input	✖
@ansoption		nvarchar	1	Input	✖
@anscontent		nvarchar	250	Input	✖

◢ Objects that insertans_option depends on

Object name	Object type	Dep level
answer_option	Table	1

2.31-Insertcrs procedure:

◢ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@crsname		nvarchar	50	Input	✖
@top_id		int	4	Input	✖

◢ Objects that insertcrs depends on

Object name	Object type	Dep level
Course	Table	1

2.32- Insertdept procedure:

⊿ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@did		int	4	Input	✖
@dname		nvarchar	50	Input	✖
@desc		nvarchar	50	Input	✖

⊿ Objects that insertdept depends on

Object name	Object type	Dep level
Department	Table	1

2.33- Insertexam procedure:

⊿ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@crsid		int	4	Input	✖
@mcqno		int	4	Input	✖
@t_fno		int	4	Input	✖
@exam_code		nvarchar	25	Input/output or output	✖

⊿ Objects that depend on insertexam

Object name	Object type	Dep level
examgeneration	Procedure	1

Total 1 object(s)

⊿ Objects that insertexam depends on

Object name	Object type	Dep level
Exam	Table	1

2.34- Insertinst procedure:

⊿ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@teachername		nvarchar	50	Input	✖
@did		int	4	Input	✖

⊿ Objects that insertinst depends on

Object name	Object type	Dep level
Teacher	Table	1

2.35- Insertquestion procedure:

⊿ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@qcont		nvarchar	250	Input	✖
@qtype		nvarchar	25	Input	✖
@correctans		nvarchar	2	Input	✖
@crsid		int	4	Input	✖

⊿ Objects that insertquestion depends on

Object name	Object type	Dep level
Question	Table	1

2.36- Insertst procedure:

⊿ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@name		nvarchar	50	Input	✖
@gender		nvarchar	2	Input	✖
@city		nvarchar	20	Input	✖
@did		int	4	Input	✖

⊿ Objects that insertst depends on

Object name	Object type	Dep level
Student	Table	1

2.37- Insertst_enroll_courses procedure:

⊿ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@sid		int	4	Input	✖
@crsid		int	4	Input	✖
@st_crs_garde		int	4	Input	✖

⊿ Objects that insertst_enroll_courses depends on

Object name	Object type	Dep level
Student_enroll_course	Table	1

2.38- Insertst_take_exam procedure:

⊿ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@exam_code		nvarchar	20	Input	✖
@sid		int	4	Input	✖
@qid		int	4	Input	✖
@st_ans		nvarchar	2	Input	✖

⊿ Objects that insertst_take_exam depends on

Object name	Object type	Dep level
Student_take_Exam	Table	1

2.39- Insertteacher_teach_course procedure:

⊿ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@crs_id		int	4	Input	✖
@t_id		int	4	Input	✖
@eva		int	4	Input	✖

⊿ Objects that insertteacher_teach_course depends on

Object name	Object type	Dep level
Teacher_tech_course	Table	1

2.40- Inserttopic procedure:

⊿ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@topid		int	4	Input	✖
@topname		nvarchar	50	Input	✖

⊿ Objects that inserttopic depends on

Object name	Object type	Dep level
Topic	Table	1

2.41- Selectallcourses procedure:

⊿ Objects that selectallcourses depends on

Object name	Object type	Dep level
Course	Table	1
Topic	Table	1

2.42- Selectalldept procedure:

⊿ Objects that selectallteacher depends on

Object name	Object type	Dep level
Department	Table	1
Evaluation	Table	1
Teacher	Table	1
Teacher_tech_course	Table	1

2.43- selectalltopic procedure:

⊿ Objects that selectalltopic depends on

Object name	Object type	Dep level
Topic	Table	1

2.44- Selectans_with_option procedure:

⊿ Objects that selectans_with_option depends on

Object name	Object type	Dep level
Answer	Table	1
answer_option	Table	1

2.45- Selectst procedure:

⊿ Objects that selectst depends on

Object name	Object type	Dep level
Department	Table	1
Student	Table	1

2.46- Selectst_enroll_courses Procedure:

⊿ Objects that selectst_enroll_courses depends on

Object name	Object type	Dep level
Course	Table	1
Student	Table	1
Student_enroll_course	Table	1

2.47- Selectst_take_exam procedure:

⊿ Objects that selectst_take_exam depends on

Object name	Object type	Dep level
Course	Table	1
Exam	Table	1
Exam_have_questions	Table	1
Student	Table	1
Student_take_Exam	Table	1

2.48- selectteacher_teach_course procedure:

⊿ Objects that selectteacher_teach_course depends on

Object name	Object type	Dep level
Course	Table	1
Evaluation	Table	1
Teacher	Table	1
Teacher_tech_course	Table	1

2.49- Update_ans_option procedure:

⊿ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@ansid		int	4	Input	✖
@ansoption		nvarchar	2	Input	✖
@anscontent		nvarchar	250	Input	✖

⊿ Objects that update_ans_option depends on

Object name	Object type	Dep level
answer_option	Table	1

2.50- Update_st_crs_grade procedure:

⊿ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@stid		int	4	Input	✖
@examcode		nvarchar	25	Input	✖
@crsid		int	4	Input	✖

⊿ Objects that update_st_crs_grade depends on

Object name	Object type	Dep level
Exam	Table	1
Student_enroll_course	Table	1
Student_take_Exam	Table	1

2.51- Updatecrs procedure:

Name	Description	Datatype	Max length	Type	ReadOnly
@crsid		int	4	Input	✖
@crsname		nvarchar	50	Input	✖
@topic		int	4	Input	✖

⊿ Objects that updatecrs depends on

Object name	Object type	Dep level
Course	Table	1

2.52- Updatedept procedure:

⊿ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@did		int	4	Input	✖
@olddname		nvarchar	50	Input	✖
@newdname		nvarchar	50	Input	✖
@desc		nvarchar	50	Input	✖

⊿ Objects that updatedept depends on

Object name	Object type	Dep level
Department	Table	1

2.53- Updateinst procedure:

⊿ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@teacherid		int	4	Input	✖
@teachername		nvarchar	50	Input	✖
@did		int	4	Input	✖

⊿ Objects that updateinst depends on

Object name	Object type	Dep level
Teacher	Table	1

2.54- Updatequestion procedure:

⊿ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@qid		int	4	Input	✖
@string		nvarchar	50	Input	✖
@value		nvarchar	250	Input	✖

⊿ Objects that updatequestion depends on

Object name	Object type	Dep level
Question	Table	1

2.55- Updatest procedure:

▲ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@id		int	4	Input	✖
@ststring		nvarchar	50	Input	✖
@value		nvarchar	30	Input	✖

▲ Objects that updatest depends on

Object name	Object type	Dep level
Student	Table	1

2.56- Updatest_enroll_courses procedure:

▲ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@sid		int	4	Input	✖
@oldcrsid		int	4	Input	✖
@newcrsid		int	4	Input	✖
@st_crs_garde		int	4	Input	✖

▲ Objects that updatest_enroll_courses depends on

Object name	Object type	Dep level
Student_enroll_course	Table	1

2.57- Updatest_take_exam procedure:

▲ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@string		nvarchar	25	Input	✖
@examcode		nvarchar	20	Input	✖
@sid		int	4	Input	✖
@qid		int	4	Input	✖
@value		nvarchar	3	Input	✖

▲ Objects that updatest_take_exam depends on

Object name	Object type	Dep level
Student_take_Exam	Table	1

2.58- Updateteacher_teach_course procedure:

⊿ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@oldcrs_id		int	4	Input	✖
@oldt_id		int	4	Input	✖
@newcrs_id		int	4	Input	✖
@newt_id		int	4	Input	✖
@eva		int	4	Input	✖

⊿ Objects that updateteacher_teach_course depends on

Object name	Object type	Dep level
Teacher_tech_course	Table	1

2.59- Updatetopic procedure:

⊿ Parameters

Name	Description	Datatype	Max length	Type	ReadOnly
@topid		int	4	Input	✖
@topname		nvarchar	50	Input	✖

⊿ Objects that updatetopic depends on

Object name	Object type	Dep level
Topic	Table	1