Lite Edition

ITI examination system1@. Data Dictionary

2019-12-14





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Legend

- **?** Primary key
- Primary key disabled
- 1 User-defined primary key
- ¶ Unique key
- ¶ Unique key disabled
- **%** User-defined unique key
- Active trigger
- Disabled trigger
- → Many to one relation
- $\succ_{\mathbf{i}}$ User-defined many to one relation
- ✓ User-defined one 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

ITI examination system@.

1. New module

2. Other

2.1. Tables

2.1.1. Table: dbo.Choices

holds all the choices of the MCQ questions

Columns

	Name	Data type	Description / Attributes
1	QNUM	int	References: dbo.MCQ_questions
1	Choice	nvarchar(50)	

Links to

	Table	Join	Title / Name / Description
>	 Idho M(() dijestions 	dbo.Choices.QNUM = dbo.MCQ_questions.QNUM	FK_Choices_MCQ

Columns	Name / Description
? QNUM, Choice	PK_Choices

2.1.2. Table: dbo.Courses

Columns

	Name	Data type	Description / Attributes
1	Course_id	int	
	Course_desc	nvarchar(50)	Nullable
	Course_name	nchar(10)	
	Duration	int	
	is_active	int	Default: 1

Linked from

	Table	Join	Title / Name / Description
\rightarrow	dbo.lnst_course	<pre>dbo.Courses.Course_id = dbo.Inst_course.Course_id</pre>	FK_Inst_course_Courses
→	dbo.Topics	dbo.Courses.Course_id = dbo.Topics.Course_id	FK_Topics_Courses

Columns	Name / Description
? Course_id	PK_Courses

2.1.3. Table: dbo.Departments

Columns

	Name	Data type	Description / Attributes
1	Dept_id	int	
	Dept_name	nchar(10)	
	Manager	int	References: dbo.lnstructors
	is_active	int	Default: 1

Links to

	Table	Join	Title / Name / Description
>	- I and instructors	dbo.Departments.Manager = dbo.Instructors.Inst_id	FK_Departments_Instructors

Linked from

	Table	Join	Title / Name / Description
\rightarrow	dbo.Instructors	<pre>dbo.Departments.Dept_id = dbo.Instructors.Dept_id</pre>	FK_Instructors_Departments
\rightarrow	dbo.Students	<pre>dbo.Departments.Dept_id = dbo.Students.Department_id</pre>	FK_Students_Departments

	Columns	Name / Description
9	Dept_id	PK_Departments

2.1.4. Table: dbo.EXAMS

hold all the exams created for all the topics

Columns

	Name	Data type	Description / Attributes
1	Exam_ID	int	Identity / Auto increment
	Model_Ans	text	
	Total_Grade	int	
	Passing_Grade	int	Nullable
	is_active	int	Default: 1
	inst_id	int	Nullable References: dbo.Instructors

Links to

	Table	Join	Title / Name / Description
→	dbo.Instructors	dbo.EXAMS.inst_id = dbo.Instructors.Inst_id	FK_EXAMS_Instructors

Linked from

	Table	Join	Title / Name / Description
\rightarrow	dbo.Exams_MCQ	dbo.EXAMS.Exam_ID = dbo.Exams_MCQ.Exams_id	FK_Exams_MCQ_EXAMS
\rightarrow	dbo.Exams_TF	dbo.EXAMS.Exam_ID = dbo.Exams_TF.EXAMS_ID	FK_Exams_TF_EXAMS
\rightarrow	dbo.Student_EXAM	dbo.EXAMS.Exam_ID = dbo.Student_EXAM.Exam_id	FK_Student_EXAM_EXAMS
\rightarrow	dbo.Topics_EXAMS	dbo.EXAMS.Exam_ID = dbo.Topics_EXAMS.Exam_id	FK_Topics_EXAMS_EXAMS

	Columns	Name / Description
9	Exam_ID	PK_EXAMS

2.1.5. Table: dbo.Exams_MCQ

Columns

	Name	Data type	Description / Attributes
1	Exams_id	int	References: dbo.EXAMS
1	MCQ_ID	int	References: dbo.MCQ_questions

Links to

	Table	Join	Title / Name / Description
\rightarrow	dbo.EXAMS	dbo.Exams_MCQ.Exams_id = dbo.EXAMS.Exam_ID	FK_Exams_MCQ_EXAMS
-	dbo.MCQ_questions	dbo.Exams_MCQ.MCQ_ID = dbo.MCQ_questions.QNUM	FK_Exams_MCQ_MCQ

	Columns	Name / Description
P	Exams_id, MCQ_ID	PK_Exams_MCQ

2.1.6. Table: dbo.Exams_TF

Columns

		Name	Data type	Description / Attributes
	1	EXAMS_ID	int	References: dbo.EXAMS
181	1	TF_ID	int	References: dbo.TF_Questions

Links to

	Table	Join	Title / Name / Description
\rightarrow	dbo.EXAMS	dbo.Exams_TF.EXAMS_ID = dbo.EXAMS.Exam_ID	FK_Exams_TF_EXAMS
—	dbo.TF_Questions	dbo.Exams_TF.TF_ID = dbo.TF_Questions.QNUM	FK_EXAMS_TF_TF_Questions

	Columns	Name / Description
P	EXAMS_ID, TF_ID	PK_EXAMS_TF

2.1.7. Table: dbo.lnst_course

Columns

	Name	Data type	Description / Attributes
1	Course_id	int	References: dbo.Courses
1	Inst_id	int	References: dbo.lnstructors

Links to

	Table	Join	Title / Name / Description
—	dbo.Courses	dbo.Inst_course.Course_id = dbo.Courses.Course_id	FK_Inst_course_Courses
—	dbo.Instructors	dbo.lnst_course.lnst_id = dbo.lnstructors.lnst_id	FK_Inst_course_Instructors

Columns	Name / Description
Course_id, Inst_id	PK_Inst_course

2.1.8. Table: dbo.Instructors

Columns

	Name	Data type	Description / Attributes
1	Inst_id	int	
	Inst_name	nchar(10)	
	Salary	int	
	Address	nvarchar(50)	Nullable
	Dept_id	int	Nullable References: dbo.Departments
	is_active	int	Default: 1

Links to

Table	Join	Title / Name / Description
dbo.Departments	dbo.Instructors.Dept_dbo.Departments.Dep	= '

Linked from

	Table	Join	Title / Name / Description
\rightarrow	dbo.Departments	dbo.Instructors. Inst_id = dbo.Departments.Manager	FK_Departments_Instructors
\rightarrow	dbo.EXAMS	dbo.Instructors.Inst_id = dbo.EXAMS.inst_id	FK_EXAMS_Instructors
\rightarrow	dbo.Inst_course	dbo.Instructors.Inst_id = dbo.Inst_course.Inst_id	FK_Inst_course_Instructors

	Columns	Name / Description
P	Inst_id	PK_Instructors

2.1.9. Table: dbo.MCQ_questions

holds all questions from the type multiple choices

Columns

	Name	Data type	Description / Attributes
1	QNUM	int	Identity / Auto increment
	Qhead	nvarchar(MAX)	
	Correct_Ans	nvarchar(50)	
	Grade	int	
	Topic_id	int	References: dbo.Topics
	is_active	int	Default: 1
	choice_num	int	Nullable
	choice2	nvarchar(50)	Nullable
	choice3	nvarchar(50)	Nullable

Links to

	Table	Join	Title / Name / Description
-	dbo.Topics	dbo.MCQ_questions.Topic_id = dbo.Topics.topic_id	FK_MCQ_questions_Topics

Linked from

	Table	Join	Title / Name / Description
→	dbo.Choices	dbo.MCQ_questions.QNUM = dbo.Choices.QNUM	FK_Choices_MCQ
→	dbo.Exams_MCQ	dbo.MCQ_questions.QNUM = dbo.Exams_MCQ.MCQ_ID	FK_Exams_MCQ_MCQ

	Columns	Name / Description
₽ Q	NUM	PK_MCQ

2.1.10. Table: dbo.Student_EXAM

Columns

	Name	Data type	Description / Attributes
1	Student_id	int	References: dbo.Students
1	Exam_id	int	References: dbo.EXAMS
	ans_Q1	char(10)	Nullable
	ans_Q2	char(10)	Nullable
	ans_Q3	char(10)	Nullable
	ans_Q4	char(10)	Nullable
	ans_Q5	char(10)	Nullable
	ans_Q6	char(10)	Nullable
	ans_Q7	char(10)	Nullable
	ans_Q8	char(10)	Nullable
	ans_Q9	char(10)	Nullable
	ans_Q10	char(10)	Nullable
	st_grade	int	Nullable

Links to

	Table	Join	Title / Name / Description
\rightarrow	dbo.EXAMS	dbo.Student_EXAM.Exam_id = dbo.EXAMS.Exam_ID	FK_Student_EXAM_EXAMS
\rightarrow	dbo.Students	dbo.Student_EXAM.Student_id = dbo.Students.Student_id	FK_Student_EXAM_Students

Columns		Name / Description
9	Student_id, Exam_id	PK_Student_EXAM

2.1.11. Table: dbo.Student_Topics

Columns

	Name	Data type	Description / Attributes
1	Student_id	int	References: dbo.Students
1	Topic_id	int	References: dbo.Topics

Links to

	Table	Join	Title / Name / Description
—	dbo.Students	dbo.Student_Topics.Student_id = dbo.Students.Student_id	FK_Student_Topics_Students
—	dbo.Topics	dbo.Student_Topics.Topic_id = dbo.Topics.topic_id	FK_Student_Topics_Topics

	Columns	Name / Description
9	Student_id, Topic_id	PK_Student_Topics

2.1.12. Table: dbo.Students

Columns

	Name	Data type	Description / Attributes
1	Student_id	int	
	FNmame	nchar(10)	
	LName	nchar(10)	
	Age	int	
	Address	nvarchar(50)	Nullable
	Department_id	int	References: dbo.Departments
	is_active	int	Default: 1

Links to

	Table	Join	Title / Name / Description
→	dbo.Departments	<pre>dbo.Students.Department_id = dbo.Departments.Dept_id</pre>	FK_Students_Departments

Linked from

	Table	Join	Title / Name / Description
\rightarrow	dbo.Student_EXAM	<pre>dbo.Students.Student_id = dbo.Student_EXAM.Student_id</pre>	FK_Student_EXAM_Students
\rightarrow	dbo.Student_Topics	<pre>dbo.Students.Student_id = dbo.Student_Topics.Student_id</pre>	FK_Student_Topics_Students

	Columns	Name / Description
9	Student_id	PK_Students

2.1.13. Table: dbo.TF_Questions

hold all the true or false Questions

Columns

	Name	Data type	Description / Attributes
1	QNUM	int	Identity / Auto increment
	Qhead	nvarchar(MAX)	
	Correct_ans	char(1)	
	Grade	int	
	Topic_id	int	References: dbo.Topics
	is_active	int	Default: 1

Links to

	Table	Join	Title / Name / Description
—	dbo.Topics	<pre>dbo.TF_Questions.Topic_id = dbo.Topics.topic_id</pre>	FK_TF_Questions_Topics

Linked from

	Table	Join	Title / Name / Description
-	← dbo.Exams_TF	dbo.TF_Questions.QNUM = dbo.Exams_TF.TF_ID	FK_EXAMS_TF_TF_Questions

	Columns	Name / Description
9	QNUM	PK_TF_Questions

2.1.14. Table: dbo.Topics

Columns

	Name	Data type	Description / Attributes
1	topic_id	int	
	Topic_Name	nvarchar(50)	
	Course_id	int	References: dbo.Courses
	is_active	int	Default: 1

Links to

	Table	Join	Title / Name / Description
>	- Lano Courses	dbo.Topics .Course_id = dbo.Courses.Course_id	FK_Topics_Courses

Linked from

	Table	Join	Title / Name / Description
\rightarrow	dbo.MCQ_questions	dbo.Topics.topic_id = dbo.MCQ_questions.Topic_id	FK_MCQ_questions_Topics
\rightarrow	dbo.Student_Topics	dbo.Topics.topic_id = dbo.Student_Topics.Topic_id	FK_Student_Topics_Topics
\rightarrow	dbo.TF_Questions	dbo.Topics.topic_id = dbo.TF_Questions.Topic_id	FK_TF_Questions_Topics
\rightarrow	dbo.Topics_EXAMS	dbo.Topics.topic_id = dbo.Topics_EXAMS.Topic_id	FK_Topics_EXAMS_Topics

Columns	Name / Description
topic_id	PK_Topics

2.1.15. Table: dbo.Topics_EXAMS

Columns

	Name	Data type	Description / Attributes
1	Topic_id	int	References: dbo.Topics
1	Exam_id	int	References: dbo.EXAMS

Links to

	Table	Join	Title / Name / Description
\rightarrow	dbo.EXAMS	dbo.Topics_EXAMS.Exam_id = dbo.EXAMS.Exam_ID	FK_Topics_EXAMS_EXAMS
-	dbo.Topics	dbo.Topics_EXAMS.Topic_id = dbo.Topics.topic_id	FK_Topics_EXAMS_Topics

Columns		Name / Description
P	Topic_id, Exam_id	PK_Topics_EXAMS

2.2. Views

2.2.1. View: dbo.V_mcq_questions

Columns

	Name	Data type	Description / Attributes
Qhead		nvarchar(MAX)	
Choice		nvarchar(50)	
QNUM		int	

2.3. Procedures

2.3.1. Procedure: dbo.correct_exam

	Name	Data type	Description
→ @	stu_id	int	
•@	exam_id	int	

2.3.2. Procedure: dbo.Delete_From_Course

	Name	Data type	Description
→ @	ID	int	

2.3.3. Procedure: dbo.Delete_From_Department

Name	Data type	Description
→ Depart_ID	int	

2.3.4. Procedure: dbo.delete_from_Instructor

	Name	Data type	Description
→@ ins_id		int	

2.3.5. Procedure: dbo.delete_from_mcq

	Name	Data type	Description
→@ qhead		nvarchar(MAX)	

2.3.6. Procedure: dbo.delete_from_Student

	Name	Data type	Description
→@ std_id		int	

2.3.7. Procedure: dbo.Delete_From_TF_Questions

Name	Data type	Description
→@ QNUM	int	

2.3.8. Procedure: dbo.Delete_From_Topic

Name	Data type	Description
→@ Topic_ID	int	

2.3.9. Procedure: dbo.delete_mcq_question

	Name	Data type	Description
→@ qhead		nvarchar(MAX)	

2.3.10. Procedure: dbo.delete_tf_question

	Name	Data type	Description
→@ qhead		nvarchar(MAX)	

2.3.11. Procedure: dbo.Exam_Answers

	Name	Data type	Description
→ @	exam_ID	int	
→ @	std_ID	int	
→ @	Ans1	varchar(50)	
→ @	Ans2	varchar(50)	
→ @	Ans3	varchar(50)	
→ @	Ans4	varchar(50)	
→ @	Ans5	varchar(50)	
→ @	Ans6	varchar(50)	
→ @	Ans7	varchar(50)	
→ @	Ans8	varchar(50)	
→ @	Ans9	varchar(50)	
→ @	Ans10	varchar(50)	

2.3.12. Procedure: dbo.Generate_exam

	Name	Data type	Description
→ @	Ins_ID	int	
→ @	Topic_ID	int	
→ @	MCQ_NUM	int	
→ @	TF_NUM	int	

2.3.13. Procedure: dbo.lnsert_Into_Course

	Name	Data type	Description
→@	Course_ID	int	
→@	Course_Name	varchar(50)	
→ @	Course_Duration	int	

2.3.14. Procedure: dbo.lnsert_Into_Department

	Name	Data type	Description
→ @	Depart_ID	int	
→ @	Depart_Name	varchar(50)	
→ @	Manager	int	

2.3.15. Procedure: dbo.insert_into_Instructor

	Name	Data type	Description
→ @	Ins_id	int	
→ @	Ins_name	varchar(20)	
→ @	Ins_Sal	int	
→ @	Ins_Add	varchar(20)	
→ @	Dept_id	int	

2.3.16. Procedure: dbo.insert_into_mcq_questions

	Name	Data type	Description
→@	qhead	nvarchar(MAX)	
→ @	c1	nvarchar(50)	
→@	c2	nvarchar(50)	
→@	сЗ	nvarchar(50)	
→@	ans	nvarchar(50)	
→ @	grade	int	
→ @	topic_id	int	
→@	is_active	int	

2.3.17. Procedure: dbo.insert_into_mcq_questions_v2

	Name	Data type	Description
→ @	qhead	nvarchar(MAX)	
→ @	c1	nvarchar(50)	
→ @	c2	nvarchar(50)	
→ @	ans	nvarchar(50)	
→ @	grade	int	
→ @	topic_id	int	
→ @	is_active	int	

2.3.18. Procedure: dbo.Insert_into_student

	Name	Data type	Description
→ @	std_id	int	
→ @	std_fname	varchar(20)	
→ @	std_lname	varchar(20)	
→ @	std_age	int	
→ @	std_add	varchar(20)	
→ @	dept_id	int	

2.3.19. Procedure: dbo.lnsert_Into_Topic

	Name	Data type	Description
→ @	Topic_ID	int	
→ @	Topic_Name	varchar(50)	
→ @	Course_ID	int	

2.3.20. Procedure: dbo.insert_mcq_question

	Name	Data type	Description
→@	Qhead	nvarchar(MAX)	
→@	correct_ans	char(1)	
→@	grade	int	
→@	ch1	nvarchar(50)	
→ @	ch2	nvarchar(50)	
→@	ch3	nvarchar(50)	

2.3.21. Procedure: dbo.insert_TF_question

	Name	Data type	Description
→ @	Qhead	nvarchar(MAX)	
→ @	correct_ans	char(1)	
→ @	grade	int	
→ @	topic_name	nvarchar(50)	

2.3.22. Procedure: dbo.Insert_TF_Questions

	Name	Data type	Description
→ @	Qhead	nvarchar(50)	
→@	Correct_ans	char(1)	
→@	Grade	int	
→ @	Topic_id	int	

2.3.23. Procedure: dbo.Select_From_Course

2.3.24. Procedure: dbo.Select_From_Department

2.3.25. Procedure: dbo.select_from_Instructor

2.3.26. Procedure: dbo.select_from_mcq

2.3.27. Procedure: dbo.select_from_Student

2.3.28. Procedure: dbo.Select_From_TF_Questions

2.3.29. Procedure: dbo.Select_From_Topic

2.3.30. Procedure: dbo.topic_mcq_question

	Name	Data type	Description
→@	topic_name	nvarchar(50)	

2.3.31. Procedure: dbo.topic_tf_question

	Name	Data type	Description
→ topic_name		nvarchar(50)	

2.3.32. Procedure: dbo.Update_In_Course

	Name	Data type	Description
→ @	Course_ID	int	
→ @	Course_Name	varchar(50)	
→ @	Course_Duration	int	

2.3.33. Procedure: dbo.Update_In_Department

	Name	Data type	Description
→ @	Dept_ID	int	
→ @	Dept_Name	varchar(50)	
→ @	Manager	int	

2.3.34. Procedure: dbo.Update_In_Topic

	Name	Data type	Description
→ @	Topic_ID	int	
→ @	Topic_Name	varchar(50)	
→ @	Course_ID	int	

2.3.35. Procedure: dbo.update_into_mcq_questions

	Name	Data type	Description
→@	qhead	nvarchar(MAX)	
→ @	c1	nvarchar(50)	
→@	c2	nvarchar(50)	
→@	сЗ	nvarchar(50)	
→@	ans	nvarchar(50)	
→@	grade	int	
→@	topic_id	int	
→@	is_active	int	

2.3.36. Procedure: dbo.update_mcq_questions_v2

	Name	Data type	Description
→@	qhead	nvarchar(MAX)	
→@	c1	nvarchar(MAX)	
→@	c2	nvarchar(MAX)	
→@	ans	nvarchar(MAX)	
→@	grade	int	
→@	topic_id	int	
→@	is_active	int	

2.3.37. Procedure: dbo.update_on_Instructor

	Name	Data type	Description
→@	Ins_id	int	
→@	Ins_name	varchar(20)	
→@	Ins_Sal	int	
→ @	Ins_Add	varchar(20)	

2.3.38. Procedure: dbo.update_on_Student

	Name	Data type	Description
→ @	std_id	int	
→ @	std_fname	varchar(20)	
→ @	std_Iname	varchar(20)	
→ @	std_age	int	
→ @	std_Add	varchar(20)	

2.3.39. Procedure: dbo.Update_TF_Questions

	Name	Data type	Description
→ @	QNUM	int	
→ @	Qhead	nvarchar(50)	
→ @	Correct_ans	char(1)	
→ @	Grade	int	
→ @	Topic_id	int	

2.4. Functions

2.4.1. Function: dbo.check_qhead_tf

	Name	Data type	Description
@	Returns	int	
→ @	qhead	nvarchar(MAX)	