CSE 581

**Lab 7: Tables**

**Purpose:**

Work with tables – create a number of tables in database CSE581labs under your NTID schema, and grant “select” to role “Graders”.

**Deliverables:**

Multiple screenshots, as described through the lab (refer to Blackboard => Assignments => Labs - Screenshots).

Scripts that you used to carry out the actions.

**Steps:**

1. Create the following tables (provide a **screenshot** of script execution for each table; provide a **screenshot** proving that all of the tables were created[[1]](#footnote-1)):

CREATE TABLE rokhande.Users (

NTID VARCHAR(20) PRIMARY KEY,

FirstName VARCHAR(50) NOT NULL,

MiddleI CHAR(1),

LastName VARCHAR(50) NOT NULL,

EmailAddress VARCHAR(100),

Password VARCHAR(50)

);

|  |  |  |
| --- | --- | --- |
| ***Table Name: Users*** |  |  |
| **Column Name** | **Column Type** | **Notes** |
| NTID | string, max length of 20 | Primary Key |
| FirstName | string, max length of 50 | Required |
| MiddleI | string, max length of 1 | Optional |
| LastName | string, max length of 50 | Required |
| EmailAddress | string, max length of 100 | Optional |
| Password | string, max length of 50 | Optional |

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CREATE TABLE rokhande.Courses (

CourseId INT PRIMARY KEY IDENTITY(1,1),

CourseCode VARCHAR(10) NOT NULL,

CourseTitle VARCHAR(50) NOT NULL,

Faculty VARCHAR(20),

OpenSeats INT NOT NULL,

FOREIGN KEY (Faculty) REFERENCES Users (NTID)

);

|  |  |  |
| --- | --- | --- |
| ***Table Name: Courses*** |  |  |
| **Column Name** | **Column Type** | **Notes** |
| CourseId | int | Primary Key, auto generated, starts at 1 |
| CourseCode | string, max len of 10 | Required |
| CourseTitle | string, max len of 50 | Required |
| Faculty | string, max len of 20 | Optional, references Users |
| OpenSeats | int | Required |

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CREATE TABLE rokhande.LetterGrades (

LetterGradeId INT PRIMARY KEY IDENTITY(1,1),

LetterGrade VARCHAR(2) NOT NULL,

Description VARCHAR(50),

);

|  |  |  |
| --- | --- | --- |
| ***Table: LetterGrades*** |  |  |
| **Column Name** | **Column Type** | **Notes** |
| LetterGradeId | int | Primary Key, auto generated, starts at 1 |
| LetterGrade | string, max len of 2 | Required |
| Description | string, max len of 50 | Optional |

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CREATE TABLE rokhande.CourseGrade (

GradingScaleId INT PRIMARY KEY IDENTITY(1,1),

LetterGradeId INT NOT NULL,

CourseId INT NOT NULL,

GradeValue INT NOT NULL CHECK (GradeValue >= 0),

FOREIGN KEY (LetterGradeId) REFERENCES LetterGrades (LetterGradeId),

FOREIGN KEY (CourseId) REFERENCES Courses (CourseId)

);

|  |  |  |
| --- | --- | --- |
| ***Table Name: CourseGrade*** |  |  |
| **Column Name** | **Column Type** | **Notes** |
| GradingScaleId | int | Primary Key, auto generated, starts at 1 |
| LetterGradeId | int | Required, references LetterGrades |
| CourseId | int | Required, references Courses |
| GradeValue | int | Required, >= 0 |

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CREATE TABLE rokhande.CourseEnrollment (

EnrollmentId INT PRIMARY KEY IDENTITY(1,1),

StudentId VARCHAR(20) NOT NULL,

CourseId INT NOT NULL,

FinalGrade DECIMAL(18, 0) CHECK (FinalGrade >= 0 AND FinalGrade <= 100),

FOREIGN KEY (StudentId) REFERENCES Users (NTID),

FOREIGN KEY (CourseId) REFERENCES Courses (CourseId)

);

|  |  |  |
| --- | --- | --- |
| ***Table Name: CourseEnrollment*** | | |
| **Column Name** | **Column Type** | **Notes** |
| EnrollmentId | int | primary key, auto generated, starts at 1 |
| StudentId | string, max len 20 | Required, references Users |
| CourseId | int | Required, references Courses |
| FinalGrade | decimal | Optional, >=0, <=100 |

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1. This can be accomplished by either expanding all the tables and their columns, or by running selects against all tables. [↑](#footnote-ref-1)