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Class and Section **ITSE 2309 – P70**

**Due: November 6, 2014 at 6pm**

Program 9: Database Design

**Problem Description:**

**A small college has several schools. Each school operates several**

**departments and has one professor as its dean. Each department offers**

**courses and has students in department study programs. Each course**

**generates classes which are taught by a professor and in which**

**students enroll. A professor is an employee of the college and is**

**assigned to a department. He will advise many students and may**

**chair a department.**

**Design the Entity Relationship Diagram for a small college.**

**Create Tables with the appropriate constraint relationships.**

**Generate the resulting Database Diagram in Management Studio.**

**Table Create & DDL Statements:**

(Copy and Paste Source Code here. Format your code using Courier 10pts)

CREATE TABLE Advisors

(

advise INTEGER NOT NULL,

CONSTRAINT PK\_advise PRIMARY KEY (advise)

)

CREATE TABLE Enrollment

(

enroll INTEGER NOT NULL,

stu INTEGER NOT NULL,

prof INTEGER NOT NULL,

CONSTRAINT PK\_enroll PRIMARY KEY (enroll)

)

CREATE TABLE Classes

(

class INTEGER NOT NULL,

CONSTRAINT PK\_class PRIMARY KEY (class)

)

CREATE TABLE Students

(

stu INTEGER NOT NULL,

class INTEGER NOT NULL,

CONSTRAINT PK\_stu PRIMARY KEY (stu),

CONSTRAINT FK\_advise FOREIGN KEY (stu)

REFERENCES Advisors (advise),

CONSTRAINT FK\_enroll FOREIGN KEY (stu)

REFERENCES Enrollment (enroll),

CONSTRAINT FK\_classes FOREIGN KEY (class)

REFERENCES Classes (class)

)

CREATE TABLE Professors

(

prof INTEGER NOT NULL,

chair INTEGER,

CONSTRAINT PK\_prof PRIMARY KEY (prof),

CONSTRAINT FK\_advises FOREIGN KEY (prof)

REFERENCES Advisors (advise),

CONSTRAINT FK\_enrolls FOREIGN KEY (prof)

REFERENCES Enrollment (enroll)

)

CREATE TABLE Courses

(

cour INTEGER NOT NULL,

class INTEGER NOT NULL,

CONSTRAINT PK\_cour PRIMARY KEY (cour),

CONSTRAINT FK\_class FOREIGN KEY (class)

REFERENCES Classes (class)

)

CREATE TABLE Departments

(

dept INTEGER NOT NULL,

cour INTEGER NOT NULL,

prof INTEGER NOT NULL,

stu INTEGER NOT NULL,

chair INTEGER,

CONSTRAINT PK\_dept PRIMARY KEY (dept),

CONSTRAINT FK\_cour FOREIGN KEY (cour)

REFERENCES Courses (cour),

CONSTRAINT FK\_prof FOREIGN KEY (prof)

REFERENCES Professors (prof),

CONSTRAINT FK\_stu FOREIGN KEY (stu)

REFERENCES Students (stu)

)

CREATE TABLE Schools

(

sch INTEGER NOT NULL,

depts INTEGER NOT NULL,

dean INTEGER NOT NULL,

CONSTRAINT PK\_sch PRIMARY KEY (sch),

CONSTRAINT FK\_depts FOREIGN KEY (depts)

REFERENCES Departments (dept),

CONSTRAINT FK\_dean FOREIGN KEY (dean)

REFERENCES Professors (prof)

)

**Database Diagram:**

(Copy and Paste here. *or attach*)

Submit the following items:

1. Print this Word file and Submit to me at beginning of class time on the due day

**Before Beginning of Class: 10 pts max.**

**After Beginning of Class: 5 pts max**.

