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Coding Activity 03

```
create database codingActivity03;
use codingActivity03;

Q1. create table employees
(
  EmployeeID int primary key,
  EmployeeName varchar(200),
  Department varchar(100),
  Supervisor varchar(100),
  Salary decimal(10,2),
  Project varchar(200)
);

Q2. create table Books_info
(
  ISBN VARCHAR(100),
  title VARCHAR(200) NOT NULL UNIQUE,
  author VARCHAR(100) NOT NULL,
  pub_date DATE,
  price DECIMAL(10, 2) NOT NULL
);

alter table Books_info add constraint UISBN UNIQUE(ISBN);

Q3. create table students
(
  students_id int primary key,
```

```
  stu_name varchar(50),
  address varchar(200),
  phone int,
  grade decimal(6,2)
);

create table enroll
(
  enroll_id varchar(10) primary key,
  enroll_date date,
  Ins_id varchar(10),
  students_id int,
  foreign key(Ins_id) references Instructor(Ins_id),
  foreign key(students_id) references students(students_id)
);
Q4. create table Instructor
(
  Ins_id varchar(10) primary key,
  Ins_name varchar(50),
  dpt varchar(20),
  course_id int,
  foreign key(course_id) references course(course_id)
);
ALTER TABLE Instructor
ADD age INT check(age> 25);

Q5. Alter table Books_info
drop constraint UISBN;
```

Q6. -- Create the Departments table

```
CREATE TABLE Departments (
  DeptID INT PRIMARY KEY,
  -- Other department-related columns
);

-- Create the Professors table with the cascade delete constraint
CREATE TABLE Professors (
  ProfID INT PRIMARY KEY,
  -- Other professor-related columns
  DeptID INT,
  FOREIGN KEY (DeptID) REFERENCES Departments(DeptID) ON DELETE CASCADE
);
```

Q7. -- Create the Departments table

```
CREATE TABLE Departments (
  DeptID INT PRIMARY KEY,
  -- Other department-related columns
);

-- Create the GraduateStudents table with the cascade update constraint
CREATE TABLE GraduateStudents (
  StudentID INT PRIMARY KEY,
  -- Other student-related columns
  DeptID INT,
  FOREIGN KEY (DeptID) REFERENCES Departments(DeptID) ON UPDATE CASCADE
);
```

Q8. create table courses

```
(
  course_id int primary key,
  course_name varchar(20),
  dpt varchar(20),
  credit int check(credit between 1 and 5)
);
```

Q9. ALTER TABLE Employees

DROP CONSTRAINT PK_Employees;

Q 10. create table Instructor

```
(
  Ins_id varchar(10) unique,
  Ins_name varchar(50),
  dpt varchar(20),
  course_id int,
  foreign key(course_id) references course(course_id)
);
```

Q 11.

```
 create table enroll
(
  enroll_id varchar(10) primary key,
  enroll_date date,
  Ins_id varchar(10),
  students_id int,
  foreign key(Ins_id) references Instructor(Ins_id),
  foreign key(students_id) references students(students_id)
);
```

ALTER TABLE enroll

ADD course_id INT;

ALTER TABLE enroll

```
ADD CONSTRAINT FK_enroll_course
FOREIGN KEY (course_id) REFERENCES course(course_id);
```

Q12.
```
CREATE TABLE Departments (
  DeptID INT PRIMARY KEY,
  -- Other department-related columns
);

CREATE TABLE Professors (
  ProfID INT PRIMARY KEY,
  -- Other professor-related columns
  DeptID INT,
  FOREIGN KEY (DeptID) REFERENCES Departments(DeptID) ON UPDATE CASCADE
);
```

Q 13.
```
ALTER TABLE Projects
ADD CONSTRAINT CHK_BudgetMinValue
CHECK (budget >= 1000);
```

Q 14.
```
ALTER TABLE ProjectParticipants
ADD CONSTRAINT FK_ProjectParticipants_Projects
FOREIGN KEY (project_id) REFERENCES Projects(project_id);
```

Q 15.
```
ALTER TABLE professors
DROP CONSTRAINT CHK_Age;
```

Q 16.
```
ALTER TABLE courseEnrollments
ADD CONSTRAINT FK_courseEnrollments_Courses
FOREIGN KEY (course_code) REFERENCES Courses(course_code);
```

Q 17. ALTER TABLE GraduateStudents

ADD CONSTRAINT CHK_DegreeProgram

CHECK (degree_program IN ('M.S.', 'Ph.D.'));

Q 18. ALTER TABLE ProjectParticipants

ADD CONSTRAINT UQ_ProjectParticipants_ProjectID UNIQUE (Project_id);

Q 19. -- Assuming the following table structures:

```
CREATE TABLE Professors (
    ProfessorID INT PRIMARY KEY,
    ProfessorName VARCHAR(255)
);

CREATE TABLE Projects (
    ProjectID INT PRIMARY KEY,
    ProjectName VARCHAR(255),
    ProfessorID INT,
    -- Other project columns...
    FOREIGN KEY (ProfessorID) REFERENCES Professors(ProfessorID)
        ON DELETE CASCADE
);

CREATE TABLE ProjectParticipants (
    ParticipantID INT PRIMARY KEY,
    ProjectID INT,
    -- Other participant columns...
    FOREIGN KEY (ProjectID) REFERENCES Projects(ProjectID)
);
```

Q 20. ALTER TABLE departments
DROP CONSTRAINT departmentID;

Q 21. ALTER TABLE Enrollments
ADD CONSTRAINT UC_StudentID UNIQUE (Student_id);

Q 22. ALTER TABLE ProfessorPercentages
ADD CONSTRAINT CHK_TimePercentage CHECK (time_percentage >= 0 AND time_percentage <= 100);

Q 23. ALTER TABLE Professors
ADD CONSTRAINT department_number_new FOREIGN KEY (department_number)
REFERENCES departments(department_number);