SOFTENG 351: Lab #4

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Q1

a)

```
INSERT INTO EMPLOYEE('Robert', 'F', 'Scott', '943775543', '1942-06-21', '2365 Newcastle
```

b)

```
INSERT INTO PROJECT('ProductA', 4, 'Bellaire', 2);
```

c)

```
INSERT INTO DEPARTMENT('Production', 4, '943775543', '1988-10-01');
```

d)

```
INSERT INTO WORKS_ON('677678989', null, '40.0');
```

e)

```
INSERT INTO DEPENDENT('453453453', 'John', M, '1960-12-12', 'SPOUSE');
```

f)

```
DELETE FROM WORKS_ON
WHERE ESSN='333445555';
```

g)

```
DELETE FROM EMPLOYEE
WHERE SSN='987654321';
```

h)

```
DELETE FROM PROJECT
WHERE PNAME='ProductX';
```

i)

```
UPDATE DEPARTMENT
SET MGR_SSN='123456789', MGR_START_DATE  PNAME='ProductX'
WHERE DNUMBER=5;
```

j)

```
UPDATE EMPLOYEE
SET SUPER_SSN='943775543'
WHERE SSN='999887777';
```

k)

```
UPDATE WORKS_ON
SET HOURS='5.0'
WHERE ESSN= '999887777' AND PNO=10;
```

Q2

Referential Integrity Constraints

SECTION.Course_number = COURSE.Course_number

GRADE_REPORT.Student_number = STUDENT.Student_number

GRADE_REPORT.Section_identifier = SECTION.Section_identifier

PREREQUISITE.Course_number = COURSE.Course_number

PREREQUISITE.Prerequisite_number = COURSE.Course_number

SQL DDL Statements

```
CREATE SCHEMA COURSE_INFO;
```

```
1 CREATE TABLE STUDENT (
2 Name VARCHAR(50) NOT NULL,
3 Student_number CHAR(9) NOT NULL,
4 Class INT NOT NULL,
5 Major VARCHAR(10),
6 PRIMARY KEY (Student_number)
7 );
```

```
1  CREATE TABLE COURSE (
2   Course_name VARCHAR(50) NOT NULL,
3   Course_number VARCHAR(14) NOT NULL,
4   Credit_hours INT NOT NULL,
5   Department VARCHAR(10) NOT NULL,
6  PRIMARY KEY (Course_number)
7   );
```

```
1  CREATE TABLE PREREQUISITE (
2   Course_number VARCHAR(14) NOT NULL,
3   Prerequisite_number VARCHAR(14) NOT NULL,
4  PRIMARY KEY (Course_number, Prerequisite_number),
5  FOREIGN KEY (Course_number) REFERENCES COURSE(Course_number),
6  FOREIGN KEY (Prerequisite_number) REFERENCES COURSE(Course_number)
7   );
```

```
1  CREATE TABLE SECTION (
2   Section_identifier INT NOT NULL,
3   Course_number VARCHAR(14) NOT NULL,
4   Semester ENUM('Fall', 'Winter', 'Spring', 'Summer') NOT NULL,
5   Year CHAR(2) NOT NULL,
6   Instructor VARCHAR(20) NOT NULL,
7  PRIMARY KEY (Section_identifier),
8  FOREIGN KEY (Course_number) REFERENCES COURSE(Course_number)
9   );
```

```
1  CREATE TABLE GRADE_REPORT (
2   Student_number CHAR(9) NOT NULL,
3   Section_identifier INT NOT NULL,
4  GRADE CHAR(1),
5  PRIMARY KEY (Student_number, Section_identifier),
6  FOREIGN KEY (Student_number) REFERENCES STUDENT(Student_number),
7  FOREIGN KEY (Section_identifier) REFERENCES SECTION(Section_identifier)
8   );
```