

SOFTENG 351: Lab #4

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Q1

a)

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

b)

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

c)

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

d)

```
INSERT INTO WORKS_ON VALUES( '677678989 ', NULL, '40.0 ' );
```

e)

```
INSERT INTO DEPENDENT VALUES( '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='1988-10-01'
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 );
```