EE488G Database and Big Data Systems, Spring 2021
HW0

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Discussion Group (People with whom you discussed ideas used in your answers): None.
On-line or hardcopy documents used as part of your answers: None.

Answer to Problem 1

(1) Create an empty database named coursys

```
CREATE DATABASE coursys;
USE coursys;
```

(2) Create a table named grades

```
CREATE TABLE grades (
  studentid INT REFERENCES students(id),
  course CHAR(10),
  mark DOUBLE,
  credit DOUBLE,
  PRIMARY KEY (studentid, course)
);
INSERT INTO grades(studentid, course, mark, credit) VALUES
(20210001, 'EE477', 90, 3.5),
(20210001, 'EE412', 85, 4),
(20210001, 'EE209', 79.5, 5),
(20210002, 'EE477', 95, 3.5),
(20210002, 'EE209', 59, 5),
(20210002, 'EE412', 70, 4) ;
```

(3) Create a table named students

```
CREATE TABLE students (
  id INT PRIMARY KEY,
  age INT,
  name VARCHAR(30) NOT NULL,
  gender CHAR(6)
);
```

```
INSERT INTO students(id, name, gender, age) VALUES
(20210001, 'Roh', 'Female', 26),
(20210002, 'Tae', 'Male', 23);
```

Answer to Problem 2

(1) Please write an SQL query to show all rows in the grades table

```
SELECT * FROM grades;
```

(2) Please write an SQL query to show the rows whose course is ₩EE477" in the grades Table

```
SELECT * FROM grades
WHERE course = 'EE477';
```

(3) Please write an SQL query to show the rows whose mark is larger than 60 and credit is no smaller than 4 in the grades table

```
SELECT * FROM grades
WHERE mark > 60 AND credit >= 4;
```

(4) Please write an SQL query to show the rows whose course starts with ₩EE4" in the grades table.

```
SELECT * FROM grades
WHERE course LIKE 'EE4%';
```

(5) Please write an SQL query to show studentid, course and mark of all rows in the grades table

```
SELECT studentid, course, mark FROM grades;
```

(6) Please write an SQL query to show distinct course of all rows in the grades table

```
SELECT DISTINCT course FROM grades;
```

(7) Please write an SQL query to show studentid, course and markpoint of all rows in the grades table. markpoint is defined as markpoint = mark * credit.

```
SELECT studentid, course, mark*credit AS markpoint
FROM grades;
```

(8) Please write an SQL query to find the students who have taken "EE477" and show their name, mark.

```
SELECT name, mark
FROM grades , students
WHERE studentid = id AND
course ='EE477';
```

(9) Please write an SQL query to compute lettergrade of each row in the grades table, and show studentid, course and lettergrade of all rows in the grades table. letter-grade is computed as follows (use a CASE Expression):

```
SELECT studentid, course,
  CASE
  WHEN mark >= 90 THEN 'A'
  WHEN mark >= 80 THEN 'B'
  WHEN mark >= 70 THEN 'C'
  WHEN mark >= 60 THEN 'D'
  ELSE 'F'
  END AS lettergrade
FROM grades;
```