Database Assignment2 Report

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Used Tuples for SQL Statements

1. department 3개

```
SQL Shell (psql)                                                    —    □    ×
university=# SELECT * FROM department;
 dept_name |  building   |  budget
-----------+-------------+----------
 COSE      | 우정정보관  | 32240000
 BUSS      | 경영본관    | 20640000
 PMED      | 이과대학    | 36220000
(3개 행)


university=#
```

2. instructors 10개

```
선택 SQL Shell (psql)                                               —    □    ×
university=# SELECT * FROM instructor;
  id   |     name      | dept_name |  salary
-------+---------------+-----------+----------
 32000 | Sulfur Steel  | COSE      | 34000.00
 32001 | Gambia Kim    | COSE      | 30000.00
 32002 | Younghwan Im  | COSE      | 31000.00
 32003 | Jess Jang     | COSE      | 29000.00
 12000 | Jaewoo Gang   | BUSS      | 30000.00
 12001 | Yejoon Ahn    | BUSS      | 28000.00
 12002 | Vik Ann       | BUSS      | 27000.00
 18000 | Kerpitan Lee  | PMED      | 37000.00
 18001 | Gangsoo Kim   | PMED      | 34000.00
 18002 | Daesoo Jeon   | PMED      | 35000.00
(10개 행)


university=#
```

3. student 20개

```
SQL Shell (psql)                                                    —    □    ×
university=# SELECT * FROM student;
  id   |        name         | dept_name | tot_cred
-------+---------------------+-----------+----------
 32100 | Minchae Jeong       | COSE      |      126
 32101 | Alan Mathison Turing| COSE      |      126
 32102 | Yonaa Kim           | COSE      |       90
 32103 | Enuen Park          | COSE      |       90
 32104 | Gwangjang Minju     | COSE      |       54
 32105 | Myunghwa Yu         | COSE      |       54
 32106 | Sangyun Hyeon       | COSE      |       54
 32107 | Mohammad Holt       | COSE      |       18
 32108 | Daram Lee           | COSE      |       18
 32109 | John von Neuumann   | COSE      |       18
 12100 | Devonte Holden      | BUSS      |      126
 12101 | Jiyoun Joo          | BUSS      |       90
 12102 | Sangwon Song        | BUSS      |       54
 12103 | Heather Myers       | BUSS      |       18
 12104 | Cheonhoon Choi      | BUSS      |       18
 18100 | Louis Pasteur       | PMED      |      126
 18101 | John von Neuumann   | PMED      |       90
 18102 | Hojoon Yoon         | PMED      |       54
 18103 | Mingi Jeong         | PMED      |       18
 18104 | Mooser Joo          | PMED      |       18
(20개 행)


university=#
```

4. advisor 20개

```
SQL Shell (psql)                                                    —    □    ×
university=# SELECT * FROM advisor;
 s_id  | i_id
-------+-------
 32100 | 32000
 32101 | 32000
 32102 | 32000
 32103 | 32001
 32104 | 32001
 32105 | 32002
 32106 | 32002
 32107 | 32002
 32108 | 32003
 32109 | 32003
 12100 | 12001
 12101 | 12001
 12102 | 12002
 12103 | 12002
 12104 | 12002
 18100 | 18000
 18101 | 18000
 18102 | 18000
 18103 | 18001
 18104 | 18001
(20개 행)


university=#
```

5. course 6개

```
SQL Shell (psql)                                                        ─   □   ×
university=# SELECT * FROM course;
 course_id |    title     | dept_name | credits
-----------+--------------+-----------+---------
 COSE371   | 데이터베이스  | COSE      |       3
 COSE222   | 컴퓨터구조    | COSE      |       3
 COSE242   | 데이터통신    | COSE      |       3
 COSE221   | 논리설계      | COSE      |       3
 BUSS207   | 재무관리      | BUSS      |       3
 PMED220   | 의학유전학    | PMED      |       3
(6개 행)


university=#
```

6. prereq 1개

```
SQL Shell (psql)                                                        ─   □   ×
university=# SELECT * FROM prereq;
 course_id | prereq_id
-----------+-----------
 COSE222   | COSE221
(1개 행)


university=#
```

7. classroom 6개

```
SQL Shell (psql)                                                        ─   □   ×
university=# SELECT * FROM classroom;
   building   | room_no | capacity
--------------+---------+----------
 애기능생활관  | 301     |      100
 정보통신관    | 205     |       30
 정보통신관    | 601     |       30
 LP관         | 432     |      100
 LP관         | 531     |      100
 의대강의실    | 제4      |       30
(6개 행)


university=#
```

8. section 10개

```
SQL Shell (psql)                                                    ─   □   ✕

university=# SELECT * FROM section;
 course_id ¦ sec_id ¦ semester ¦ year ¦   building    ¦ room_no ¦ time_slot_id
-----------+--------+----------+------+---------------+---------+--------------
 COSE371   ¦ 01     ¦ 2nd      ¦ 2019 ¦ 애기능생활관   ¦ 301     ¦ 00000000
 COSE371   ¦ 02     ¦ 2nd      ¦ 2019 ¦ 정보통신관     ¦ 205     ¦ 00001111
 COSE222   ¦ 01     ¦ 2nd      ¦ 2019 ¦ 애기능생활관   ¦ 301     ¦ 11110000
 COSE222   ¦ 02     ¦ 2nd      ¦ 2019 ¦ 정보통신관     ¦ 205     ¦ 11111111
 COSE222   ¦ 03     ¦ 2nd      ¦ 2019 ¦ 정보통신관     ¦ 205     ¦ 11110000
 COSE242   ¦ 00     ¦ 2nd      ¦ 2019 ¦ 정보통신관     ¦ 601     ¦ 00000000
 BUSS207   ¦ 01     ¦ 2nd      ¦ 2019 ¦ LP관           ¦ 432     ¦ 00000000
 BUSS207   ¦ 02     ¦ 2nd      ¦ 2019 ¦ LP관           ¦ 531     ¦ 00001111
 PMED220   ¦ 01     ¦ 2nd      ¦ 2019 ¦ 의대강의실     ¦ 제4     ¦ 00000000
 PMED220   ¦ 02     ¦ 2nd      ¦ 2019 ¦ 의대강의실     ¦ 제4     ¦ 00001111
(10개 행)


university=#
university=#
```

9. teaches 10개

```
SQL Shell (psql)                                                    ─   □   ✕

university=# SELECT * FROM teaches;
  id   ¦ course_id ¦ sec_id ¦ semester ¦ year
-------+-----------+--------+----------+------
 32000 ¦ COSE371   ¦ 01     ¦ 2nd      ¦ 2019
 32001 ¦ COSE371   ¦ 02     ¦ 2nd      ¦ 2019
 32003 ¦ COSE222   ¦ 01     ¦ 2nd      ¦ 2019
 32001 ¦ COSE222   ¦ 02     ¦ 2nd      ¦ 2019
 32002 ¦ COSE222   ¦ 03     ¦ 2nd      ¦ 2019
 32003 ¦ COSE242   ¦ 00     ¦ 2nd      ¦ 2019
 12000 ¦ BUSS207   ¦ 01     ¦ 2nd      ¦ 2019
 12001 ¦ BUSS207   ¦ 02     ¦ 2nd      ¦ 2019
 18000 ¦ PMED220   ¦ 01     ¦ 2nd      ¦ 2019
 18001 ¦ PMED220   ¦ 02     ¦ 2nd      ¦ 2019
(10개 행)


university=#
```

10. takes 10개

```
SQL Shell (psql)                                                    —    □    ×

university=# SELECT * FROM takes
university-# ;
   id    | course_id | sec_id | semester | year | grade
---------+-----------+--------+----------+------+-------
 32100   | COSE222   | 02     | 2nd      | 2019 | B+
 32101   | COSE371   | 01     | 2nd      | 2019 | A+
 32101   | COSE222   | 01     | 2nd      | 2019 | A+
 32101   | COSE242   | 00     | 2nd      | 2019 | A+
 32102   | COSE371   | 01     | 2nd      | 2019 | B+
 32102   | COSE242   | 00     | 2nd      | 2019 | A0
 32103   | COSE371   | 01     | 2nd      | 2019 | A0
 32105   | COSE242   | 00     | 2nd      | 2019 | B0
 32106   | COSE371   | 02     | 2nd      | 2019 | B0
 32107   | COSE222   | 03     | 2nd      | 2019 | A0
 32109   | COSE371   | 01     | 2nd      | 2019 | A+
 32109   | COSE242   | 00     | 2nd      | 2019 | A+
(12개 행)


university=#
```

Table	department	instructor	student	advisor	course	prereq	classroom	section	teaches	takes
Tuple 수	3	10	20	20	6	1	6	10	10	10

SQL Statements

1. 의대생들의 이름

```
SQL Shell (psql)                                                    —    □    ×

university=#
university=# SELECT name
university-# FROM student
university-# WHERE student.dept_name = 'PMED';
       name
-------------------
 Louis Pasteur
 John von Neuumann
 Hojoon Yoon
 Mingi Jeong
 Mooser Joo
(5개 행)


university=#
```

2. 경영학과 학생들 중 Kerpitan Lee 교수가 지도교수인 학생

```
SQL Shell (psql)                                              —    □    ×
university=#
university=# SELECT student.ID, student.name, student.dept_name, student.tot_cred
university-# FROM student, advisor, instructor
university-# WHERE (student.ID = advisor.s_id) AND (advisor.i_id = instructor.ID) AND (ins
tructor.name = 'Kerpitan Lee');
  id  |       name        | dept_name | tot_cred
------+-------------------+-----------+----------
 18100 | Louis Pasteur     | PMED      |      126
 18101 | John von Neuumann | PMED      |       90
 18102 | Hojoon Yoon       | PMED      |       54
(3개 행)


university=#
```

3. 총 학점이 60 이상인 모든 학생

```
SQL Shell (psql)                                              —    □    ×
university=#
university=# SELECT *
university-# FROM student
university-# WHERE student.tot_cred >= 60;
  id  |        name         | dept_name | tot_cred
------+---------------------+-----------+----------
 32100 | Minchae Jeong       | COSE      |      126
 32101 | Alan Mathison Turing | COSE     |      126
 32102 | Yonaa Kim           | COSE      |       90
 32103 | Enuen Park          | COSE      |       90
 12100 | Devonte Holden      | BUSS      |      126
 12101 | Jiyoun Joo          | BUSS      |       90
 18100 | Louis Pasteur       | PMED      |      126
 18101 | John von Neuumann   | PMED      |       90
(8개 행)


university=#
```

4. 강의들의 이름과 그 담당 교수의 이름

```
SQL Shell (psql)                                                    —    □    ×
university=# SELECT title, name
university-# FROM (course NATURAL JOIN teaches) NATURAL JOIN instructor;
    title    |      name
-------------+----------------
 데이터베이스 | Sulfur Steel
 데이터베이스 | Gambia Kim
 컴퓨터구조   | Jess Jang
 컴퓨터구조   | Gambia Kim
 컴퓨터구조   | Younghwan Im
 데이터통신   | Jess Jang
 재무관리     | Jaewoo Gang
 재무관리     | Yejoon Ahn
 의학유전학   | Kerpitan Lee
 의학유전학   | Gangsoo Kim
(10개 행)


university=#
```

5. 학생들이 들은 수업의 이름과 학점

```
SQL Shell (psql)                                                    —    □    ×
university=#
university=# SELECT student.ID, name, title, grade
university-# FROM (student NATURAL JOIN takes) NATURAL JOIN course;
  id   |         name          |    title    | grade
-------+-----------------------+-------------+-------
 32100 | Minchae Jeong         | 컴퓨터구조   | B+
 32101 | Alan Mathison Turing  | 데이터베이스 | A+
 32101 | Alan Mathison Turing  | 컴퓨터구조   | A+
 32101 | Alan Mathison Turing  | 데이터통신   | A+
 32102 | Yonaa Kim             | 데이터베이스 | B+
 32102 | Yonaa Kim             | 데이터통신   | A0
 32103 | Enuen Park            | 데이터베이스 | A0
 32105 | Myunghwa Yu           | 데이터통신   | B0
 32106 | Sangyun Hyeon         | 데이터베이스 | B0
 32107 | Mohammad Holt         | 컴퓨터구조   | A0
 32109 | John von Neuumann     | 데이터베이스 | A+
 32109 | John von Neuumann     | 데이터통신   | A+
(12개 행)


university=#
```

6. 총 학점이 90 이상인 컴퓨터학과 학생

```
university=#
university=# SELECT *
university-# FROM student
university-# WHERE student.tot_cred >= 90 AND student.dept_name = 'COSE';
  id  |        name          | dept_name | tot_cred
------+----------------------+-----------+----------
 32100 | Minchae Jeong       | COSE      |      126
 32101 | Alan Mathison Turing | COSE      |      126
 32102 | Yonaa Kim           | COSE      |       90
 32103 | Enuen Park          | COSE      |       90
(4개 행)


university=#
```

7. Gambia Kim 교수가 진행하는 수업에서 학생들에게 준 점수

```
university=#
university=# SELECT takes.ID, grade
university-# FROM (instructor NATURAL JOIN teaches) JOIN (section NATURAL JOIN takes) USIN
G (course_id, sec_id, semester, year)
university-# WHERE instructor.name = 'Gambia Kim';
  id  | grade
------+-------
 32106 | B0
 32100 | B+
(2개 행)


university=#
```

8. 2019년 2학기의 COSE371-01(데이터베이스)를 들은 학생의 이름과 학점

```
SQL Shell (psql)                                                    —    □    ×
university=#
university=# SELECT student.name, grade
university-# FROM student NATURAL JOIN takes
university-# WHERE takes.year = 2019 AND takes.semester = '2nd' AND takes.course_id = 'COS
E371' AND takes.sec_id = '01';
        name         ¦ grade
---------------------+-------
 Alan Mathison Turing ¦ A+
 Yonaa Kim            ¦ B+
 Enuen Park           ¦ A0
 John von Neuumann    ¦ A+
(4개 행)


university=# _
```

9. 애기능생활관 301호에서 강의하는 수업들의 이름

```
SQL Shell (psql)                                                    —    □    ×
university=#
university=# SELECT title
university-# FROM section NATURAL JOIN course
university-# WHERE section.building = '애기능생활관' AND room_no = '301';
    title
-------------
 데이터베이스
 컴퓨터구조
(2개 행)


university=# _
```

10. 자신의 지도교수가 수업하는 강의를 듣는 학생의 이름과 학점, 그 수업의 학수번호

```
university=#
university=# SELECT takes.course_id, student.name, grade
university-# FROM student, advisor, (teaches JOIN takes USING (course_id, sec_id, semester
, year))
university-# WHERE  student.ID = advisor.s_id AND teaches.ID = advisor.i_id AND takes.ID =
 student.ID;
 course_id |         name          | grade
-----------+-----------------------+-------
 COSE371   | Alan Mathison Turing  | A+
 COSE371   | Yonaa Kim             | B+
 COSE222   | Mohammad Holt         | A0
 COSE242   | John von Neuumann     | A+
(4개 행)


university=#
```