

1.
a.

```

choijaewon — psql ◀ runpsql.sh — 79x12

practice1=# select title
practice1=# from course
practice1=# where course.dept_name = 'Comp. Sci.'
practice1=# and course.credits = 3;
           title
-----
Robotics
Image Processing
Database System Concepts
(3 rows)

practice1=#

```

b.

```

choijaewon — psql ◀ runpsql.sh — 79x17

practice1=# select distinct takes.ID
practice1=# from teaches, takes, instructor
practice1=# where instructor.name = 'Srinivasan'
practice1=# and teaches.ID = instructor.ID
practice1=# and teaches.course_id = takes.course_id;
           id
-----
00128
12345
45678
54321
76543
98765
(6 rows)

practice1=#

```

c.

```

choijaewon — psql ◀ runpsql.sh — 79x8

practice1=# select max(salary) from instructor;
           max
-----
95000.00
(1 row)

practice1=#

```

d.

```

choijaewon — psql ◀ runpsql.sh — 80x14

practice1=# select course_id, sec_id, semester, year, count(distinct ID)
practice1=# from takes
practice1=# where semester = 'Fall'
practice1=# and year = 2017
practice1=# group by course_id, sec_id, semester, year;

```

| course_id | sec_id | semester | year | count |
|-----------|--------|----------|------|-------|
| CS-101 | 1 | Fall | 2017 | 6 |
| CS-347 | 1 | Fall | 2017 | 2 |
| PHY-101 | 1 | Fall | 2017 | 1 |

```

(3 rows)

```

2.

a.

```

choijaewon — psql ◀ runpsql.sh — 79x12

[practice1=# select sum(points*credits) as total_grade_points
[practice1=# from takes, course, grade_points
[practice1=# where takes.course_id = course.course_id
[practice1=# and takes.grade = grade_points.grade
[practice1=# and takes.ID = '12345';
total_grade_points
-----
48.0
(1 row)

```

b.

```

choijaewon — psql ◀ runpsql.sh — 106x11

practice1=# select sum(points * credits) / sum(credits) as GPA
from takes, course, grade_points
where takes.course_id = course.course_id and takes.grade = grade_points.grade
and takes.ID = '12345' group by ID;
gpa
-----
3.4285714285714286
(1 row)

```

c.

```

choijaewon — psql ◀ runpsql.sh — 106x21

practice1=# select ID, sum(points * credits) / sum(credits) as GPA
from takes, course, grade_points
where takes.course_id = course.course_id and takes.grade = grade_points.grade group by ID;
id | gpa
---+---
76553 | 2.0000000000000000
19991 | 3.0000000000000000
76543 | 4.0000000000000000
54321 | 3.5000000000000000
44553 | 2.7000000000000000
55739 | 3.7000000000000000
45678 | 2.0181818181818182
12345 | 3.4285714285714286
98988 | 4.0000000000000000
98765 | 2.2571428571428571
00128 | 3.8714285714285714
23121 | 2.3000000000000000
(12 rows)

practice1=#

```

d.

```

choijaewon — psql ◀ runpsql.sh — 105x17

[practice1=# select ID, GPA
[practice1=# from (select ID, sum(points * credits) / sum(credits) as GPA
[practice1=# from takes, course, grade_points
[practice1=# where takes.course_id = course.course_id and takes.grade = grade_points.grade
[practice1=# group by ID) as ID_GPA(ID, GPA)
[practice1=# where GPA > 3.0;
id | gpa
---+---
76543 | 4.0000000000000000
54321 | 3.5000000000000000
55739 | 3.7000000000000000
12345 | 3.4285714285714286
98988 | 4.0000000000000000
00128 | 3.8714285714285714
(6 rows)

practice1=#

```