Assignment 2

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1

```sql
select distinct chinese_name,
                station_id
from stations
where chinese_name like '南%'
order by station_id asc;
```

	chinese_name	station_id
1	南山	43
2	南联	98
3	南油	167

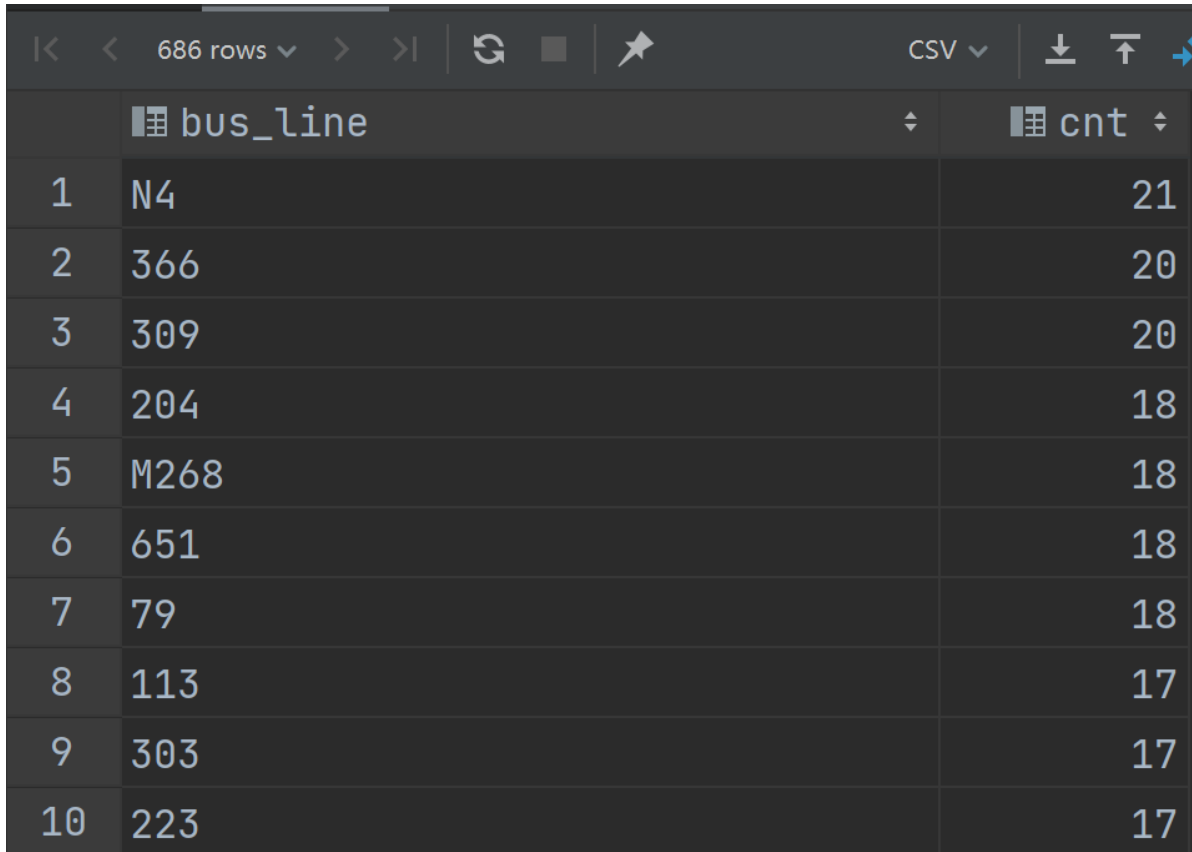3 rows

2

```sql
select name,
       hex,
       ranking
from (select name,
             hex,
             rank() over (order by hex) ranking
      from color_names) color
where ranking between 10 and 14;
```

	name	hex	ranking
1	DeepSkyBlue	#00BFFF	10
2	DarkTurquoise	#00CED1	11
3	MediumSpringGreen	#00FA9A	12
4	Lime	#00FF00	13
5	SpringGreen	#00FF7F	14

5 rows

3

3.1
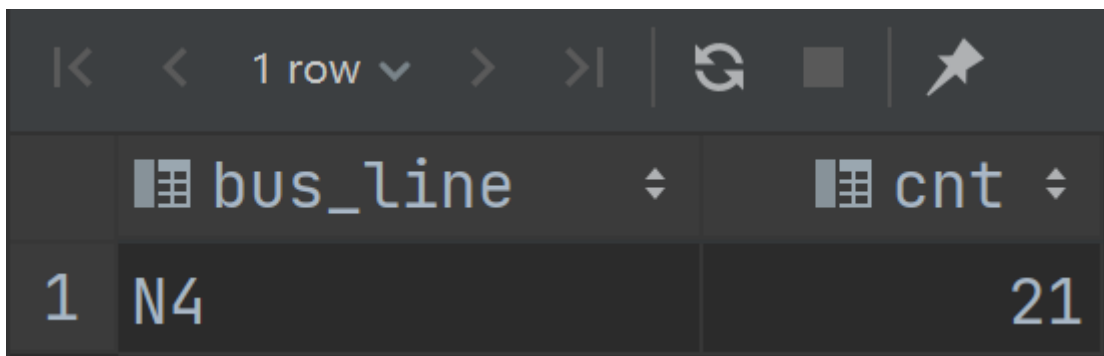
```sql
select distinct bus_line,
               count(*) over (partition by bus_line) cnt
from bus_lines
order by cnt desc;
```

	bus_line	cnt
1	N4	21
2	366	20
3	309	20
4	204	18
5	M268	18
6	651	18
7	79	18
8	113	17
9	303	17
10	223	17

686 rows

3.2

```sql
select distinct bus_line,
               count(*) over (partition by bus_line) cnt
from bus_lines
order by cnt desc
limit 1;
```

	bus_line	cnt
1	N4	21

1 row

3.3

```sql
select bus_line,
       cnt
from (select bus_line,
             cnt,
             rank() over (order by cnt desc) rank
      from (select distinct bus_line,
                            count(*) over (partition by bus_line) cnt
            from bus_lines
            order by cnt desc
           ) cnt_t) t
where rank = 1
order by cnt asc;
```

bus_line	cnt
N4	21

4

4.1

```sql
select distinct station.station_id,
                english_name,
                chinese_name
from (select station_id
      from bus_lines
      where bus_line = '2'
         or bus_line = '7'
     ) station
         join (select station_id,
                      english_name,
                      chinese_name
               from stations) sta_name
              on station.station_id = sta_name.station_id;
```

	station_id	english_name	chinese_name
1	1	Luohu	罗湖
2	2	Guomao	国贸
3	70	Hubei	湖贝
4	79	Hongling	红岭
5	81	Cuizhu	翠竹
6	82	Tianbei	田贝
7	104	Minle	民乐
8	140	Tai'an	太安
9	180	Yinhu	银湖
10	182	Yuanling	园岭
11	183	Hongling South	红岭南
12	185	Renmin South	人民南

4.2

```
select sta_name.station_id,
       english_name,
       chinese_name
from (select line2.station_id
      from (select station_id
            from bus_lines
            where bus_line = '2') line2
               join
           (select station_id
            from bus_lines
            where bus_line = '7') line7
           on line2.station_id = line7.station_id) line
         join (select station_id,
                      english_name,
                      chinese_name
               from stations) sta_name
              on sta_name.station_id = line.station_id;
```

	station_id	english_name	chinese_name
1	1	Luohu	罗湖

4.3

```
select round(100 * cast(cntco as decimal(10,2)) / cnt7, 2) || '%' ratio
from (select count(*) over () cntco,
             cnt7
      from (select line2.station_id,
                   cnt7
            from (select station_id
```

```
                    from bus_lines
                   where bus_line = '2') line2
                      join
                (select station_id,
                        count(*) over () cnt7
                   from bus_lines
                  where bus_line = '7') line7
                on line2.station_id = line7.station_id) line
            join (select station_id,
                         english_name,
                         chinese_name
                    from stations) sta_name
              on sta_name.station_id = line.station_id) t;
```

ratio
1 14.29%