```
select id, name, dob from student;
```

id	name	dob
9	Jim	1942
10	Jack	1981
11	Mary	2000
12	Helen	2002
13	Nate	2001
14	Jacky	2002
15	Olha	2011
16	Alex	1975
19	Bill	2015
18	Tom	2020
17	Alex	1976

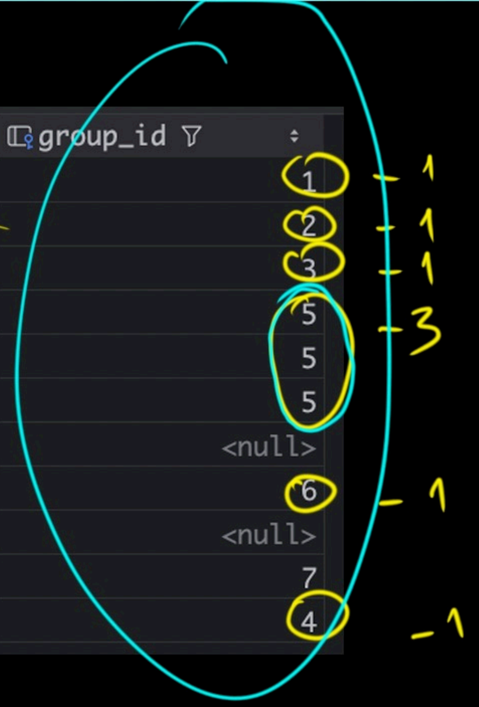
```
select id, name, avg(dob) from student;
```

?

```
select avg(dob) from student;
```

1993....

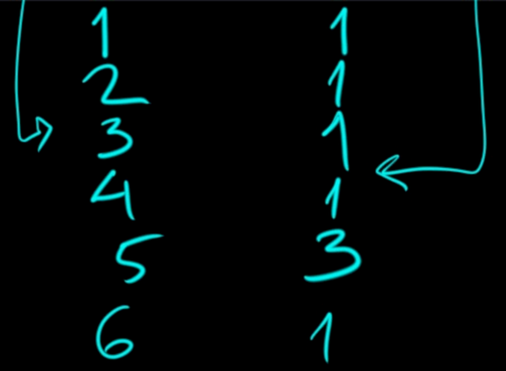
id	name	dob	group_id
9	Jim	1942	1
10	Jack	1981	2
11	Mary	2000	3
12	Helen	2002	5
13	Nate	2001	5
14	Jacky	2002	5
15	Olha	2011	<null>
16	Alex	1975	6
19	Bill	2015	<null>
18	Tom	2020	7
17	Alex	1976	4



aggregate functions

count
avg
sum
min
max
...

```
select group_id, count(group_id)
from student
```




```
group by group_id
```

group_id	count
<null>	0
6	1
1	1
2	1
3	1
4	1
5	3
7	1

```
WITH
    g_count as (
select group_id, count(group_id) as c2
from student
group by group_id)
select
    CASE
        WHEN g.name IS NULL THEN '<no group>'
        ELSE                     g.name
    END as g_name2,
    c2 from g_count
left outer join groupp g on (g.id = g_count.group_id);
```

g_name2	c2
FS1	1
FS2	1
FS3	1
FS4	1
FS5	3
FS6	1
FS7	1
<no group>	0

```sql
select group_id, count(group_id)
from student
where group_id is not null
group by group_id
UNION (
 select group_id null,
        count(group_id) count(*)
 from student where group_id is null
);
```

group_id	count
7	1
6	1
5	3
4	1
3	1
2	1
1	1
<null>	2

```sql
WITH
    g_count as (
select group_id, count(group_id) c2
from student
where group_id is not null
group by group_id
UNION (
 select group_id null,
        c2 count(*)
 from student where group_id is null
)
)
select
    CASE
        WHEN g.name IS NULL THEN '<no group>'
        ELSE                     g.name
    END as g_name2,
    c2 from g_count
left outer join groupp g on (g.id = g_count.group_id);
```

g_name2	c2
FS1	1
FS2	1
FS3	1
FS4	1
FS5	3
FS6	1
FS7	1
<no group>	2

id	name	dob	group_id
9	Jim	1942	1
10	Jack	1981	2
11	Mary	2000	3
12	Helen	2002	5
13	Nate	2001	5
14	Jacky	2002	5
15	Olha	2011	<null>
16	Alex	1975	6
19	Bill	2015	<null>
18	Tom	2020	7
17	Alex	1976	4

?

distinct name

?

group

distinct:

```
select name, count(name)
from student
group by name;
```

name	count
Alex	3
Olha	1
Nate	1
Jim	1
Helen	1
Mary	1
Jack	1
Bill	1
Tom	1

id	name	dob	group_id
16	Alex	1975	6
17	Alex	1976	4
14	Alex	1976	5
19	Bill	2015	<null>
12	Helen	2002	5
10	Jack	1981	2
9	Jim	1942	1
11	Mary	2000	3
13	Nate	2001	5
15	Olha	2011	<null>
18	Tom	2020	7

Alex 1975 1

Alex 1976 2

```
select name, dob, count(name)
from student
group by name, dob;
```

100%

name	dob	count
Alex	1976	2
Alex	1975	1
Bill	2015	1
Helen	2002	1
Jack	1981	1
Jim	1942	1
Mary	2000	1