

Assignment 5

Nama : Kosmas Rio Legowo

NIM : 23/512012/PA/21863

- 1) Buatlah database dengan data tabel mahasiswa berikut

No	NIM	Name	City Address	Age	IPK	Departement
1	12345	Adi	Jakarta	17	2,5	Math
2	12346	Ani	Yogyakarta	20	2,1	Math
3	12347	Ari	Surabaya	18	2,5	Computer
4	12348	Ali	Banjarmasin	20	3,5	Computer
5	12349	Abi	Medan	17	3,7	Computer
6	12350	Budi	Jakarta	19	3,8	Computer
7	12351	Boni	Yogyakarta	20	3,2	Computer
8	12352	Bobo	Surabaya	17	2,7	Computer
9	12353	Beni	Banjarmasin	18	2,3	Computer
10	12354	Cepi	Jakarta	20	2,2	Null
11	12355	Coni	Yogyakarta	22	2,6	Null
12	12356	Ceki	Surabaya	21	2,5	Math
13	12357	Dodi	Jakarta	20	3,1	Math
14	12358	Didi	Yogyakarta	19	3,2	Physics
15	12359	Deri	Surabaya	19	3,3	Physics
16	12360	Eli	Jakarta	20	2,9	Physics
17	12361	Endah	Yogyakarta	18	2,8	Physics
18	12362	Feni	Jakarta	17	2,7	Null
19	12363	Farah	Yogyakarta	18	3,5	Null
20	12364	Fandi	Surabaya	19	3,4	Null

Telah dibuat database dengan table student:

```
mysql> select * from student;
+-----+-----+-----+-----+-----+-----+-----+
| NO | NIM | Name | City_Address | Age | IPK | Departement |
+-----+-----+-----+-----+-----+-----+-----+
| 1 | 12345 | Adi | Jakarta | 17 | 2.50 | Math |
| 2 | 12346 | Ani | Yogyakarta | 20 | 2.10 | Math |
| 3 | 12347 | Ari | Surabaya | 18 | 2.50 | Computer |
| 4 | 12348 | Ali | Banjarmasin | 20 | 3.50 | Computer |
| 5 | 12349 | Abi | Medan | 17 | 3.70 | Computer |
| 6 | 12350 | Budi | Jakarta | 19 | 3.80 | Computer |
| 7 | 12351 | Boni | Yogyakarta | 20 | 3.20 | Computer |
| 8 | 12352 | Bobi | Surabaya | 17 | 2.70 | Computer |
| 9 | 12353 | Beni | Banjarmasin | 18 | 2.30 | Computer |
| 10 | 12354 | Cepi | Jakarta | 20 | 2.20 | NULL |
| 11 | 12355 | Coni | Yogyakarta | 22 | 2.60 | NULL |
| 12 | 12356 | Ceki | Surabaya | 21 | 2.50 | Math |
| 13 | 12357 | Dodi | Jakarta | 20 | 3.10 | Math |
| 14 | 12358 | Didi | Yogyakarta | 19 | 3.20 | Physics |
| 15 | 12359 | Deri | Surabaya | 19 | 3.30 | Physics |
| 16 | 12360 | Eli | Jakarta | 20 | 2.90 | Physics |
| 17 | 12361 | Endah | Yogyakarta | 18 | 2.80 | Physics |
| 18 | 12362 | Feni | Jakarta | 17 | 2.70 | NULL |
| 19 | 12363 | Farah | Yogyakarta | 18 | 3.50 | NULL |
| 20 | 12364 | Fandi | Surabaya | 19 | 3.40 | NULL |
+-----+-----+-----+-----+-----+-----+-----+
20 rows in set (0.00 sec)
```

2) Buatlah *query SQL* untuk:

1. Tampilkan kolom *city address* tanpa duplikat

`select city_address from student`

-> `group by city_address;`

```
mysql> select city_address from student
-> group by city_address;
+-----+
| city_address |
+-----+
| Jakarta      |
| Yogyakarta   |
| Surabaya     |
| Banjarmasin  |
| Medan        |
+-----+
5 rows in set (0.01 sec)
```

2. Tampilkan ipk maksimum mahasiswa dari Jakarta

`select city_address, max(IPK) from student`

-> `group by city_address`

-> `having city_address = 'Jakarta';`

```
mysql> select city_address, max(IPK) from student
-> group by city_address
-> having city_address = 'Jakarta';
+-----+-----+
| city_address | max(IPK) |
+-----+-----+
| Jakarta      | 3.80     |
+-----+-----+
1 row in set (0.00 sec)
```

3. Tampilkan ipk minimum dari mahasiswa jurusan Komputer

`select departement, min(IPK) from student`

-> `group by departement`

-> `having departement = 'Computer';`

```
mysql> select departement, min(IPK) from student
-> group by departement
-> having departement = 'Computer';
+-----+-----+
| departement | min(IPK) |
+-----+-----+
| Computer    | 2.30     |
+-----+-----+
1 row in set (0.00 sec)
```

4. Tampilkan jumlah mahasiswa di departemen Komputer

```
select departement, count(*) as jumlah_mhs from student
```

-> group by departement

-> having departement = 'Computer';

```
mysql> select departement, count(*) as jumlah_mhs from student
-> group by departement
-> having departement = 'Computer';
+-----+-----+
| departement | jumlah_mhs |
+-----+-----+
| Computer    |          7 |
+-----+-----+
1 row in set (0.00 sec)
```

5. Tampilkan IPK rata-rata dari mahasiswa jurusan matematika

```
select departement, avg(ipk) from student
```

-> group by departement

-> having departement = 'Math';

```
mysql> select departement, avg(ipk) from student
-> group by departement
-> having departement = 'Math';
+-----+-----+
| departement | avg(ipk) |
+-----+-----+
| Math        | 2.550000 |
+-----+-----+
1 row in set (0.00 sec)
```

6. Tampilkan jumlah data mahasiswa di setiap jurusan

Mengikutsertakan jumlah mahasiswa yang tidak punya departement/jurusan

```
select departement, count(*) as jumlah_mhs from student
```

-> group by departement;

```
mysql> select departement, count(*) as jumlah_mhs from student
-> group by departement;
+-----+-----+
| departement | jumlah_mhs |
+-----+-----+
| Math        |          4 |
| Computer    |          7 |
| NULL        |          5 |
| Physics     |          4 |
+-----+-----+
4 rows in set (0.00 sec)
```

Tanpa mengikutsertakan jumlah mahasiswa yang tidak punya departement

```
select departement, count(*) as jumlah_mhs from student
```

-> group by departement

-> having departement is not null;

```
mysql> select departement, count(*) as jumlah_mhs from student
-> group by departement
-> having departement is not null;
+-----+-----+
| departement | jumlah_mhs |
+-----+-----+
| Math        | 4          |
| Computer    | 7          |
| Physics     | 4          |
+-----+-----+
3 rows in set (0.00 sec)
```

7. Tampilkan jumlah data mahasiswa dari *city* yang berbeda

```
select city_address, count(*) as jumlah_mhs from student
```

-> group by city_address

-> ;

```
mysql> select city_address, count(*) as jumlah_mhs from student
-> group by city_address
-> ;
+-----+-----+
| city_address | jumlah_mhs |
+-----+-----+
| Jakarta      | 6          |
| Yogyakarta   | 6          |
| Surabaya     | 5          |
| Banjarmasin  | 2          |
| Medan        | 1          |
+-----+-----+
5 rows in set (0.00 sec)
```

8. Tampilkan data jumlah kelompok mahasiswa berdasarkan alamat kota dengan usia dibawah 20 tahun

```
select city_address, count(*) as jumlah_mhs from student
```

-> where age < 20

-> group by city_address;

```
mysql> select city_address, count(*) as jumlah_mhs from student
-> where age < 20
-> group by city_address;
+-----+-----+
| city_address | jumlah_mhs |
+-----+-----+
| Jakarta      | 3          |
| Surabaya     | 4          |
| Medan        | 1          |
| Banjarmasin  | 1          |
| Yogyakarta   | 3          |
+-----+-----+
5 rows in set (0.00 sec)
```