

## **LAPORAN ASSIGMENT 2 PRAKTIKUM BASIS DATA**

### **“Data Manipulation Language 3”**



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Kelas : KOMB

**LAB. ELEKTRONIKA DASAR DAN LAB. INSTRUMENTASI DASAR**

**DEPARTEMEN ILMU KOMPUTER DAN ELEKTRONIKA**

**FAKULTAS MATEMATIKA DAN ILMU PENGETAHUAN ALAM**

**UNIVERSITAS GADJAH MADA**

**2021**

## Assignment 5

### Data Manipulation Language 3

Soal :

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	Bobi	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

2) Buatlah *query SQL* untuk:

1. Tampilkan kolom *city address* tanpa duplikat
2. Tampilkan ipk maksimum mahasiswa dari Jakarta
3. Tampilkan ipk minimum dari mahasiswa jurusan Komputer
4. Tampilkan jumlah mahasiswa di departemen Komputer
5. Tampilkan IPK rata-rata dari mahasiswa jurusan matematika
6. Tampilkan jumlah data mahasiswa di setiap jurusan
7. Tampilkan jumlah data mahasiswa dari *city* yang berbeda
8. Tampilkan data jumlah kelompok mahasiswa berdasarkan alamat kota dengan usia dibawah 20 tahun

Jawaban :

- 1) CREATE DATABASE IF NOT EXISTS university  
CREATE TABLE IF NOT EXISTS student(  
NIM INT(10) NOT NULL AUTO\_INCREMENT,  
Name VARCHAR(255) NOT NULL,  
City\_Address VARCHAR(255) NOT NULL,

Age INT(3) NOT NULL,  
IPK FLOAT NOT NULL  
Departement VARCHAR(255),  
PRIMARY KEY (NIM)

)

INSERT INTO ( NIM, Name, City\_Address, Age, IPK, Department)

VALUES

('12345','Adi','Jakarta','17','2,5','Math'),  
('12346','Ani','Yogyakarta','20','2,1','Math'),  
('12347','Ari','Surabaya','18','2,5','Computer'),  
('12348','Ali','Banjarmasin','20','3,5','Computer'),  
('12349','Abi','Medan','17','3,7','Computer'),  
('12350','Budi','Jakarta','19','3,8','Computer'),  
('12351','Boni','Yogyakarta','20','3,2','Computer'),  
('12352','Bobi','Surabaya','17','2,7','Computer'),  
('12353','Beni','Banjarmasin','18','2,3','Computer'),  
('12354','Cepi','Jakarta','20','2,2','NULL'),  
('12355','Coni','Yogyakarta','22','2,6','NULL'),  
('12356','Ceki','Surabaya','21','2,5','Math'),  
('12357','Dodi','Jakarta','20','3,1','Math'),  
('12358','Didi','Yogyakarta','19','3,2','Physics'),  
('12359','Deri','Surabaya','19','3,3','Physics'),  
('12360','Eli','Jakarta','20','2,9','Physics'),  
('12361','Endah','Yogyakarta','18','2,8','Physics'),  
('12362','Feni','Jakarta','17','2,7','NULL'),  
('12363','Farah','Yogyakarta','18','3,5','NULL'),  
('12364','Fandi','Surabaya','19','3,4','NULL');

NIM	Name	City_Address	Age	IPK	Departement
12345	Adi	Jakarta	17	2.5	Math
12346	Ani	Yogyakarta	20	2.1	Math
12347	Ari	Surabaya	18	2.5	Computer
12348	Ali	Banjarmasin	20	3.5	Computer
12349	Abi	Medan	17	3.7	Computer
12350	Budi	Jakarta	19	3.8	Computer
12351	Boni	Yogyakarta	20	3.2	Computer
12352	Bobo	Surabaya	17	2.7	Computer
12353	Beni	Banjarmasin	18	2.3	Computer
12354	Cepi	Jakarta	20	2.2	NULL
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2)

1. SELECT DISTINCT City\_Address FROM student

City_Address
Jakarta
Yogyakarta
Surabaya
Banjarmasin
Medan

2. SELECT MAX(IPK) FROM student  
WHERE City\_Address = 'Jakarta'

**MAX(IPK)**

3.8

3. SELECT MIN(IPK) FROM student  
WHERE Departement = 'Computer'

**MIN(IPK)**

2.3

4. SELECT COUNT(\*) AS Jumlah\_siswa FROM student  
WHERE Departement = 'Computer'

**Jumlah\_siswa**

7

5. SELECT AVG(IPK) 'Rata-rata siswa' FROM student  
WHERE Departement = 'Math'

**Rata-rata siswa**

2.549999952316284

6. SELECT Departement, COUNT(DEPARTEMENT) 'Jumlah Mahasiswa' FROM  
student

GROUP BY Departement

Departement	Jumlah Mahasiswa
NULL	0
Computer	7
Math	4
Physics	4

7. SELECT City\_Address, COUNT(City\_Address) 'Jumlah Mahasiswa' FROM  
student

GROUP BY City\_Address

City_Address	Jumlah Mahasiswa
Banjarmasin	2
Jakarta	6
Medan	1
Surabaya	5
Yogyakarta	6

8. SELECT City\_Address, COUNT(City\_Address) 'Jumlah Mahasiswa' FROM  
student

WHERE Age < 20

GROUP BY City\_Address

City_Address	Jumlah Mahasiswa
Banjarmasin	1
Jakarta	3
Medan	1
Surabaya	4
Yogyakarta	3