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Matkul : Praktikum Sistem Basis Data

Tugas 1 Praktikum Sistem Basis Data

Mahasiswa

NPM	Nama	Alamat
201143500439	Andi	Jakarta
201143500121	Desi	Bekasi
201143500234	Endah	Depok
201143500165	Firdaus	Jakarta
201143500228	Gandi	Depok
201143500326	Hilda	Bogor

Matakuliah

KD_MK	Nama_MK	SKS
KK021	Sistem Basis Data	2
KD132	Interaksi Manusia Komputer	3
KU122	Ilmu Budaya Dasar	2

Nilai

NPM	KD_MK	UTS	UAS
201143500439	KK021	60	75
201143500121	KD123	70	90
201143500234	KK021	50	40
201143500165	KU122	90	80
201143500228	KU122	75	75
201143500326	KD123	80	0
201143500439	KD123	40	30

1. Buatlah Database Tugas1

```
MariaDB [(none)]> CREATE DATABASE tugas1;
Query OK, 1 row affected (0.003 sec)

MariaDB [(none)]>
```

2. Aktifkan database

```
MariaDB [(none)]> USE tugas1;
Database changed
MariaDB [tugas1]>
```

3. Buatlah 3 buah tabel diatas

```
MariaDB [tugas1]> CREATE TABLE mahasiswa(
    -> NPM varchar(20),
    -> NAMA varchar(100),
    -> ALAMAT varchar(100));
Query OK, 0 rows affected (0.925 sec)

MariaDB [tugas1]> CREATE TABLE matakuliah(
    -> kd_mk varchar(25),
    -> nama_mk varchar(100),
    -> sks int(10));
Query OK, 0 rows affected (0.771 sec)

MariaDB [tugas1]> CREATE TABLE nilai(
    -> npm varchar(25),
    -> kd_mk varchar(25),
    -> uts int(25),
    -> uas int(25));
Query OK, 0 rows affected (0.769 sec)

MariaDB [tugas1]>
```

4. Tampilkan seluruh database

```
MariaDB [tugas1]> SHOW DATABASES;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| mysql              |
| nama_database      |
| performance_schema |
| phpmyadmin         |
| si                 |
| test               |
| tugas1             |
+--------------------+
8 rows in set (0.022 sec)

MariaDB [tugas1]>
```

5. Tampilkan seluruh tabel

```
MariaDB [tugas1]> SHOW TABLES;
+------------------+
| Tables_in_tugas1 |
+------------------+
| mahasiswa        |
| matakuliah       |
| nilai            |
+------------------+
3 rows in set (0.001 sec)

MariaDB [tugas1]>
```

6. Tampilkan struktur tabel Matakuliah

```
MariaDB [tugas1]> DESC matakuliah;
+---------+-------------+------+-----+---------+-------+
| Field   | Type        | Null | Key | Default | Extra |
+---------+-------------+------+-----+---------+-------+
| kd_mk   | varchar(25) | YES  |     | NULL    |       |
| nama_mk | varchar(100)| YES  |     | NULL    |       |
| sks     | int(10)     | YES  |     | NULL    |       |
+---------+-------------+------+-----+---------+-------+
3 rows in set (0.009 sec)

MariaDB [tugas1]>
```

7. Hapus tabel Matakuliah

```
MariaDB [tugas1]> DROP TABLE matakuliah;
Query OK, 0 rows affected (0.443 sec)

MariaDB [tugas1]>
```

8. Buat tabel Matakuliah

```
MariaDB [tugas1]> CREATE TABLE matakuliah(
    -> kd_mk varchar(25),
    -> nama_mk varchar(100),
    -> sks int(10));
Query OK, 0 rows affected (0.446 sec)

MariaDB [tugas1]>
```

9. Ganti tabel Matakuliah dengan MT_Kuliah

```
MariaDB [tugas1]> ALTER TABLE matakuliah rename MT_kuliah;
Query OK, 0 rows affected (0.520 sec)

MariaDB [tugas1]>
```

10. Ganti nama field Nama_MK dengan NM_MK dan panjang field 30

```
MariaDB [tugas1]> ALTER TABLE MT_kuliah change nama_mk
    -> NM_MK varchar(30);
Query OK, 0 rows affected (2.662 sec)
Records: 0  Duplicates: 0  Warnings: 0

MariaDB [tugas1]>
```

11. Tambahkan kolom Tgl_lahir pada tabel Mahasiswa

```
MariaDB [tugas1]> ALTER TABLE mahasiswa ADD column tgl_lahir date;
Query OK, 0 rows affected (0.163 sec)
Records: 0  Duplicates: 0  Warnings: 0

MariaDB [tugas1]> DESC mahasiswa;
+-----------+-------------+------+-----+---------+-------+
| Field     | Type        | Null | Key | Default | Extra |
+-----------+-------------+------+-----+---------+-------+
| NPM       | varchar(20) | YES  |     | NULL    |       |
| NAMA      | varchar(100)| YES  |     | NULL    |       |
| ALAMAT    | varchar(100)| YES  |     | NULL    |       |
| tgl_lahir | date        | YES  |     | NULL    |       |
+-----------+-------------+------+-----+---------+-------+
4 rows in set (0.011 sec)

MariaDB [tugas1]>
```

12. Hapus kolom Tgl_lahir

```
MariaDB [tugas1]> ALTER TABLE mahasiswa DROP tgl_lahir;
Query OK, 0 rows affected (0.196 sec)
Records: 0  Duplicates: 0  Warnings: 0

MariaDB [tugas1]> DESC mahasiswa;
+--------+-------------+------+-----+---------+-------+
| Field  | Type        | Null | Key | Default | Extra |
+--------+-------------+------+-----+---------+-------+
| NPM    | varchar(20) | YES  |     | NULL    |       |
| NAMA   | varchar(100)| YES  |     | NULL    |       |
| ALAMAT | varchar(100)| YES  |     | NULL    |       |
+--------+-------------+------+-----+---------+-------+
3 rows in set (0.004 sec)

MariaDB [tugas1]>
```

13. Tambahkan kolom Tgl_Lahir pada tabel Mahasiswa pada awal field

```
3 rows in set (0.004 sec)

MariaDB [tugas1]> ALTER TABLE mahasiswa ADD column tgl_lahir date first;
Query OK, 0 rows affected (0.528 sec)
Records: 0  Duplicates: 0  Warnings: 0

MariaDB [tugas1]> DESC mahasiswa;
+-----------+--------------+------+-----+---------+-------+
| Field     | Type         | Null | Key | Default | Extra |
+-----------+--------------+------+-----+---------+-------+
| tgl_lahir | date         | YES  |     | NULL    |       |
| NPM       | varchar(20)  | YES  |     | NULL    |       |
| NAMA      | varchar(100) | YES  |     | NULL    |       |
| ALAMAT    | varchar(100) | YES  |     | NULL    |       |
+-----------+--------------+------+-----+---------+-------+
4 rows in set (0.024 sec)

MariaDB [tugas1]>
```

14. Hapus kolom Tgl_Lahir

```
MariaDB [tugas1]> ALTER TABLE mahasiswa DROP tgl_lahir;
Query OK, 0 rows affected (0.188 sec)
Records: 0  Duplicates: 0  Warnings: 0

MariaDB [tugas1]> DESC mahasiswa;
+--------+--------------+------+-----+---------+-------+
| Field  | Type         | Null | Key | Default | Extra |
+--------+--------------+------+-----+---------+-------+
| NPM    | varchar(20)  | YES  |     | NULL    |       |
| NAMA   | varchar(100) | YES  |     | NULL    |       |
| ALAMAT | varchar(100) | YES  |     | NULL    |       |
+--------+--------------+------+-----+---------+-------+
3 rows in set (0.004 sec)

MariaDB [tugas1]>
```

15. Tambahkan kolom Tgl_Lahir pada tabel Mahasiswa setelah kolom nama

```
MariaDB [tugas1]> ALTER TABLE mahasiswa ADD column tgl_lahir date after nama;
Query OK, 0 rows affected (0.312 sec)
Records: 0  Duplicates: 0  Warnings: 0

MariaDB [tugas1]> DESC mahasiswa;
+-----------+--------------+------+-----+---------+-------+
| Field     | Type         | Null | Key | Default | Extra |
+-----------+--------------+------+-----+---------+-------+
| NPM       | varchar(20)  | YES  |     | NULL    |       |
| NAMA      | varchar(100) | YES  |     | NULL    |       |
| tgl_lahir | date         | YES  |     | NULL    |       |
| ALAMAT    | varchar(100) | YES  |     | NULL    |       |
+-----------+--------------+------+-----+---------+-------+
4 rows in set (0.022 sec)

MariaDB [tugas1]>
```

Algoritma Penjelasan:

1. Membuat database dengan nama tugas1 > CREATE DATABASE tugas1;
2. Aktifkan database yang sudah dibuat nama > USE tugas1;
3. Membuat 3 buah tabel dengan menentukan field, tipe data, dan sizenya,
   > CREATE TABLE
   > field tipedata (size),
   > field tipedata (size));
   -Table mahasiswa
   Field npm varchar (20)
   Field nama varchar (100)
   Field alamat varchar (100)

   -Table matakuliah
   Field kd_mk varchar (25)
   Field nama_mk varchar (100)
   Field sks integer (10)

   -Table nilai
   Field npm varchar (25)
   Field kd_mk varchar (25)
   Field uts integer (25)
   Field uas integer (25)

4. Tampilkan seluruh database > SHOW DATABASES;
5. Tampilkan seluruh tabel > SHOW TABLES;

Tables_in_tugas1
mahasiswa
matakuliah
Nilai

6. Tampilkan struktur tabel Matakuliah > DESC matakuliah;

Field	Nama_MK	null	key	default	extra
KD_MK	Varchar(25)	yes		NULL	
Nama_MK	Varchar (100)	yes		NULL	
SKS	Int(10)	yes		NULL	

7. Hapus tabel Matakuliah > DROP TABLE matakuliah;
8. Buat tabel Matakuliah > CREATE TABLE matakuliah;
9. Ganti tabel Matakuliah dengan MT_Kuliah >ALTER TABLE matakuliah rename MT_kuliah;
   Setelah tampil Query Ok berarti sudah terganti
10. Ganti nama field Nama_MK dengan NM_MK dan panjang field 30
    ALTER TABLE MT_kuliah change nama_MK
    NM_mk varchar(30);

Field	type	Null	key	default	extra
KD_MK	Varchar(25)	Yes		NULL	
NM_MK	Varchar (30)	Yes		NULL	
SKS	Int(10)	Yes		NULL	

11. Tambahkan kolom Tgl_lahir pada tabel Mahasiswa> ALTER TABLE mahasiswa ADD column tgl_lahir date;
12. Hapus kolom Tgl_lahir > ALTER TABLE mahasiswa DROP tgl_lahir;
13. Tambahkan kolom Tgl_Lahir pada tabel Mahasiswa pada awal field
    > ALTER TABLE mahasiswa ADD column tgl_lahir date first;
    Tampilkan struktur tabel mahasiswa > DESC mahasiswa;

Field	type	Null	key	default	extra
Tgl_lahir	date	Yes		NULL	
Npm	Varchar (25)	Yes		NULL	
Nama	Varchar (100)	Yes		NULL	
Alamat	Varchar (100)	Yes		NULL	

14. Hapus kolom Tgl_lahir > ALTER TABLE mahasiswa DROP tgl_lahir;
    Tampilkan struktur tabel mahasiswa > DESC mahasiswa;

Field	type	Null	key	default	extra
Npm	Varchar (25)	Yes		NULL	
Nama	Varchar (100)	Yes		NULL	
Alamat	Varchar (100)	Yes		NULL	

15. Tambahkan kolom Tgl_Lahir pada tabel Mahasiswa setelah kolom nama
    > ALTER TABLE mahasiswa ADD column tgl_lahir date after nama;
    Tampilkan struktur tabel mahasiswa > DESC mahasiswa;

Field	type	Null	key	default	extra
Npm	Varchar (25)	Yes		NULL	
Nama	Varchar (100)	Yes		NULL	
Tgl_lahir	date	Yes		NULL	
Alamat	Varchar (100)	Yes		NULL	