

TUGAS PERORANGAN/INDIVIDU

JOBSHEET 10 BASIS DATA

Disusun sebagai
JOBSHEET 10 BASIS DATA
MATA KULIAH :

Oleh:

ALI AR RIDLA/ 1931710069

MI-1A/02



**DIII MANAJEMEN INFORMATIKA
TEKNOLOGI INFORMASI POLITEKNIK NEGERI MALANG
2020**

PRAKTIKUM

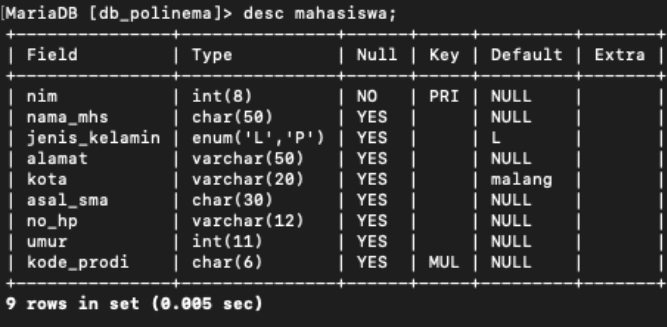
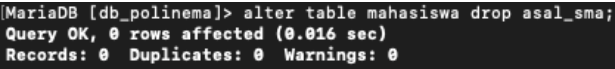
Langkah	Keterangan
1.	Buka prompt jalankan perintah berikut ini : C:\>Program Files\xampp\mysql\bin>mysql -u root -p (enter)

	<pre> Yushintias-MacBook-Pro:~ YushintiaPramitarini\$ mysql -u root -p Enter password: Welcome to the MySQL monitor. Commands end with ; or \g. Your MySQL connection id is 17 Server version: 5.7.15 Homebrew Copyright (c) 2000, 2016, Oracle and/or its affiliates. All rights reserved. Oracle is a registered trademark of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners. Type 'help;' or '\h' for help. Type '\c' to clear the current input statement. mysql> </pre>																				
2.	Buatlah sebuah database dengan nama db_polinema																				
	<pre> mysql> create database db_polinema; Query OK, 1 row affected (0.01 sec) mysql> show databases; +-----+ Database +-----+ information_schema db_polinema mysql performance_schema sys +-----+ 5 rows in set (0.00 sec) </pre>																				
3.	<p>Buatlah beberapa tabel dalam database tersebut sesuai dengan kriteria berikut :</p> <p>a. Tabel Mahasiswa</p> <table border="1"> <thead> <tr> <th>Field</th><th>Type Data</th></tr> </thead> <tbody> <tr> <td>nim</td><td>Int (8) Primary Key</td></tr> <tr> <td>nama_mhs</td><td>Char (50)</td></tr> <tr> <td>jenis_kelamin</td><td>Enum ('L','P') DEFAULT 'L'</td></tr> <tr> <td>alamat</td><td>Varchar (50)</td></tr> <tr> <td>kota</td><td>Varchar (20) DEFAULT 'MALANG'</td></tr> <tr> <td>asal_sma</td><td>Char (30)</td></tr> <tr> <td>no_hp</td><td>Varchar (12)</td></tr> <tr> <td>umur</td><td>INT</td></tr> <tr> <td>kode_prodi</td><td>Char (6) foreign key fk0 (kode_prodi) references prodi (kode_prodi)</td></tr> </tbody> </table>	Field	Type Data	nim	Int (8) Primary Key	nama_mhs	Char (50)	jenis_kelamin	Enum ('L','P') DEFAULT 'L'	alamat	Varchar (50)	kota	Varchar (20) DEFAULT 'MALANG'	asal_sma	Char (30)	no_hp	Varchar (12)	umur	INT	kode_prodi	Char (6) foreign key fk0 (kode_prodi) references prodi (kode_prodi)
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no_hp	Varchar (12)																				
umur	INT																				
kode_prodi	Char (6) foreign key fk0 (kode_prodi) references prodi (kode_prodi)																				
	<pre> mysql> create table mahasiswa (nim int(8) primary key, nama_mhs char(50), jenis_kelamin enum('L','P') default 'L', alamat varchar(50), kota varchar(20) default 'malang', asal_sma char(30), no_hp varchar(12), umur integer, kode_prodi char(6), foreign key fk0 (kode_prodi) references prodi(kode_prodi)); Query OK, 0 rows affected (0.01 sec) </pre>																				
4.	<p>b. Tabel Prodi</p> <table border="1"> <thead> <tr> <th>Field</th><th>Type Data</th></tr> </thead> <tbody> <tr> <td>kode_prodi</td><td>Char (6) Primary Key</td></tr> </tbody> </table>	Field	Type Data	kode_prodi	Char (6) Primary Key																
Field	Type Data																				
kode_prodi	Char (6) Primary Key																				

	nama_prodi Char (30)												
	<pre>mysql> create table prodi (kode_prodi char(6) primary key,nama_prodi char(30)) Query OK, 0 rows affected (0.02 sec)</pre>												
5.	<p>c. Tabel mata_kuliah</p> <table> <thead> <tr> <th>Field</th><th>Type Data</th></tr> </thead> <tbody> <tr> <td>mk_id</td><td>Char (10) Primary Key</td></tr> <tr> <td>nama_mk</td><td>Char (50)</td></tr> <tr> <td>jumlah_jam</td><td>Float (4,2)</td></tr> <tr> <td>sks</td><td>Integer</td></tr> </tbody> </table>	Field	Type Data	mk_id	Char (10) Primary Key	nama_mk	Char (50)	jumlah_jam	Float (4,2)	sks	Integer		
Field	Type Data												
mk_id	Char (10) Primary Key												
nama_mk	Char (50)												
jumlah_jam	Float (4,2)												
sks	Integer												
	<pre>mysql> create table mata_kuliah (mk_id char(10) primary key, nama_mk char(50), jumlah_jam float(4,2), sks integer); Query OK, 0 rows affected (0.02 sec)</pre>												
6.	<p>d. Tabel ruang</p> <table> <thead> <tr> <th>Field</th><th>Type Data</th></tr> </thead> <tbody> <tr> <td>ruang_id</td><td>Char (3) Primary Key</td></tr> <tr> <td>nama_ruang</td><td>Char (20)</td></tr> <tr> <td>Kapasitas</td><td>Integer</td></tr> </tbody> </table>	Field	Type Data	ruang_id	Char (3) Primary Key	nama_ruang	Char (20)	Kapasitas	Integer				
Field	Type Data												
ruang_id	Char (3) Primary Key												
nama_ruang	Char (20)												
Kapasitas	Integer												
	<pre>mysql> create table ruang (ruang_id char(3) primary key, nama_ruang char(20), kapasitas integer); Query OK, 0 rows affected (0.02 sec)</pre>												
7.	<p>e. Tabel dosen</p> <table> <thead> <tr> <th>Field</th><th>Type Data</th></tr> </thead> <tbody> <tr> <td>nidn</td><td>integer (20) Primary Key</td></tr> <tr> <td>nama_dosen</td><td>Char (50)</td></tr> <tr> <td>status</td><td>Enum ('PNS','KONTRAK') Default 'PNS'</td></tr> <tr> <td>jenis_kelamin</td><td>Enum ('L','P') Default 'L'</td></tr> <tr> <td>no_hp</td><td>Varchar (15)</td></tr> </tbody> </table>	Field	Type Data	nidn	integer (20) Primary Key	nama_dosen	Char (50)	status	Enum ('PNS','KONTRAK') Default 'PNS'	jenis_kelamin	Enum ('L','P') Default 'L'	no_hp	Varchar (15)
Field	Type Data												
nidn	integer (20) Primary Key												
nama_dosen	Char (50)												
status	Enum ('PNS','KONTRAK') Default 'PNS'												
jenis_kelamin	Enum ('L','P') Default 'L'												
no_hp	Varchar (15)												
	<pre>mysql> create table dosen (nidn integer(20) primary key, nama _dosen char(50), status enum ('PNS','KONTRAK') default 'PNS', jenis_kelamin enum ('L','P') default 'L', no_hp varchar(15)); Query OK, 0 rows affected (0.02 sec)</pre>												
8.	<p><Soal> Tambahkan sebuah kolom agama (varchar(10)) pada tabel mahasiswa sebagai kolom terakhir Catat : Buat Screenshot dari perintah yang anda ketikkan</p> <pre>MariaDB [db_polinema]> alter table dosen add column agama varchar(10) after nama_dosen; Query OK, 0 rows affected (0.012 sec) Records: 0 Duplicates: 0 Warnings: 0 MariaDB [db_polinema]> alter table dosen add column alamat varchar(50) after agama; Query OK, 0 rows affected (0.006 sec) Records: 0 Duplicates: 0 Warnings: 0</pre>												

9.	<p><Soal></p> <p>Tambahkan kolom alamat(varchar(50)) pada tabel dosen sebagai kolom terakhir</p> <p>Catat : Buat Screenshot dari perintah yang anda ketikkan</p> <pre>MariaDB [db_polinema]> alter table dosen add column agama varchar(10) after nama_dosen; Query OK, 0 rows affected (0.012 sec) Records: 0 Duplicates: 0 Warnings: 0 MariaDB [db_polinema]> alter table dosen add column alamat varchar(50) after agama; Query OK, 0 rows affected (0.006 sec) Records: 0 Duplicates: 0 Warnings: 0</pre>
----	---

10.	<p><Soal> Lakukan insert data ke dalam tabel-tabel yang ada pada database db_polinema sesuai dengan field, tipe data dan panjang datanya Catat : Buat Screenshot dari perintah yang anda ketikkan</p> <pre> MariaDB [db_polinema]> insert into dosen values -> (000002,'andi','islam','surabaya'), -> (000003,'dito','katolik','bandung'), -> (000004,'dilan','kristen','jakarta'); Query OK, 3 rows affected (0.001 sec) Records: 3 Duplicates: 0 Warnings: 0 </pre> <pre> MariaDB [db_polinema]> insert into ruang values ('R01','RPL',100), ('R02','TKJ',100), ('R03','LAB RPL',100), ('R04','LAB KJ',100); Query OK, 4 rows affected (0.004 sec) Records: 4 Duplicates: 0 Warnings: 0 </pre> <pre> MariaDB [db_polinema]> insert into prodi values ('RPL01','RPL'), ('RPL02','RPL'), ('TKJ01','TKJ'); Query OK, 3 rows affected (0.004 sec) Records: 3 Duplicates: 0 Warnings: 0 </pre> <pre> MariaDB [db_polinema]> insert into mahasiswa values -> (1931710069,'ali','L','jl.trunojoyo','kota malang','SMK 1 MALANG','085130336828',20,'RPL01'); Query OK, 1 row affected (0.008 sec) </pre>
11.	<p><Soal> Tampilkan semua tabel yang ada didalam database db_polinema Catat : Buat Screenshot dari perintah yang anda ketikkan</p> <pre> MariaDB [db_polinema]> show tables; +-----+ Tables_in_db_polinema +-----+ dosen mahasiswa prodi ruang +-----+ 4 rows in set (0.003 sec) </pre>
12.	<p><Soal> Tampilkan semua isi tabel yang ada didalam tabel mahasiswa Catat : Buat Screenshot dari perintah yang anda ketikkan</p> <pre> MariaDB [db_polinema]> select * from mahasiswa; +-----+-----+-----+-----+-----+-----+-----+-----+ nim nama_mhs jenis_kelamin alamat kota asal_sma no_hp umur kode_prodi +-----+-----+-----+-----+-----+-----+-----+-----+ 1931710069 ali L jl.trunojoyo kota malang SMK 1 MALANG 085130336828 20 RPL01 1931710161 alvino L jl.pahlawan kota surabaya SMK 1 SURABAYA 085130330820 19 RPL02 1932710364 milea P jl.ksatria kota bandung SMK 1 BANDUNG 085130331821 18 TKJ01 +-----+-----+-----+-----+-----+-----+-----+-----+ 3 rows in set (0.000 sec) </pre>

13.	<p><Soal> Tampilkan struktur(metadata) tabel mahasiswa Catat : Buat Screenshot dari perintah yang anda ketikkan</p> 
14.	<p><Soal> hilangkan kolom asal_sma yang terdapat didalam tabel mahasiswa Catat : Buat Screenshot dari perintah yang anda ketikkan</p> 

Tugas

1. Buatlah basis data Akademik dengan data sebagai berikut :

No_Mhs	Nama_mhs	Jurusan	Kd_MK	Nama_mk	Kd_Dosen	Nm_Dosen	nilai
1921001	Aminah	MI	MI350	Basis Data	B104	Ati	85
1921001	Budiman	MI	MI465	Pemrograman	B105	Dita	87
1921002	Carina	MI	MI465	Pemrograman	B105	Dita	85
1921003	Della	TI	TI201	Mobile	C102	Leo	78
1921004	Firda	TI	TI201	Mobile	C102	Leo	80

- deskripsikan struktur data dari table-table berikut serta isikan datanya:
- Tabel Mahasiswa {No_Mhs, Nama_mhs}
Tabel Mata_Kuliah {Kd_MK, Nama_MK}
Tabel nilai {No_Mhs, Kode_MK}

```

MariaDB [(none)]> use akademik
Database changed
MariaDB [akademik]> create table mahasiswa(
-> no_mhs char(12) not null primary key,
-> nama_mhs char(30)
-> );
Query OK, 0 rows affected (0.37 sec)

MariaDB [akademik]> create table mata_kuliah(
-> kd_mk char(12) not null primary key,
-> nama_mk varchar(30)
-> );
Query OK, 0 rows affected (1.01 sec)

MariaDB [akademik]> create nilai(
-> no_mhs char(12),
-> kode_mk char(12)
-> );

```

- c. tambahkan kolom Jurusan pada tabel Mahasiswa di kolom terakhir

```
MariaDB [akademik]> alter table mahasiswa add jurusan varchar(10);
Query OK, 0 rows affected (0.85 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

- d. tambahkan kolom Kode Dosen pada tabel Mata_Kuliah

```
MariaDB [akademik]> alter table mata_kuliah add kd_dosen char(12);
Query OK, 0 rows affected (0.90 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

- e. tambahkan kolom nilai pada tabel nilai serta berikanlah kunci foreign key

```
MariaDB [akademik]> alter table nilai add foreign key (kode_mk) references mata_kuliah(kd_mk);
Query OK, 0 rows affected (1.37 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

- f. tambahkan Tabel Dosen dengan atributnya Kd_Dosen dan Nama Dosen

```
MariaDB [akademik]> create table dosen(
  -> kd_dosen char(12) not null primary key,
  -> nama_dosen varchar(30)
  -> );
Query OK, 0 rows affected (0.46 sec)

MariaDB [akademik]> alter table mata_kuliah add foreign key (kd_dosen) references dosen(kd_dosen);
Query OK, 0 rows affected (1.31 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

- g. tampilkan semua data yang ada pada tiap tabel

```
MariaDB [akademik]> INSERT INTO 'mahasiswa' ('No_Mhs', 'Nama_Mhs') VALUES ('1921001', 'Aminah'), ('1921005', 'Budiman'), ('1921002', 'Carina'), ('1921003', 'Della'), ('1921004', 'Firda');
Query OK, 5 rows affected (0.002 sec)
Records: 5 Duplicates: 0 Warnings: 0

MariaDB [akademik]> select * from dosen join mahasiswa on dosen.Kd_Dosen = mahasiswa.No_Mhs;
Empty set, 3 warnings (0.004 sec)

MariaDB [akademik]> show tables;
+-----+
| Tables_in_akademik |
+-----+
| dosen                |
| mahasiswa            |
| mataKuliah           |
| nilai                |
+-----+
4 rows in set (0.003 sec)

MariaDB [akademik]> select * from dosen;
+-----+-----+
| Kd_Dosen | Nm_Dosen |
+-----+-----+
| B104     | Ati      |
| B105     | Dita     |
| C102     | Leo      |
+-----+-----+
3 rows in set (0.003 sec)

MariaDB [akademik]> select * from mahasiswa;
+-----+-----+-----+
| No_Mhs | Nama_Mhs | jurusan |
+-----+-----+-----+
| 1921001 | Aminah   | MI      |
| 1921002 | Carina   | MI      |
| 1921003 | Della    | MI      |
| 1921004 | Firda    | TI      |
| 1921005 | Budiman  | TI      |
+-----+-----+-----+
5 rows in set (0.002 sec)

MariaDB [akademik]> select * from mataKuliah;
+-----+-----+-----+
| Kd_MK | Nama_MK | Kd_Dosen |
+-----+-----+-----+
| MI350 | Basis Data | B104     |
| MI465 | Pemrograman | B105     |
| TI201 | Mobile    | C102     |
+-----+-----+-----+
3 rows in set (0.001 sec)

MariaDB [akademik]> select * from nilai;
+-----+-----+-----+
| No_Mhs | Kd_MK | nilai |
+-----+-----+-----+
| 1921001 | MI350 | 85     |
| 1921005 | MI465 | 87     |
| 1921002 | MI465 | 85     |
| 1921003 | TI201 | 78     |
| 1921004 | TI201 | 80     |
+-----+-----+-----+
5 rows in set (0.000 sec)

MariaDB [akademik]> █
```


2. Buatlah basis data Pegawai yang terdiri dari tabel sebagai berikut :

Noprojek	NamaProyek	Nopegawai	NamaPegawai	Golongan	BesarGaji
NP001	BRR	Peg01	Anton	A	1.000.000
NP001	BRR	Peg02	Paula	B	900.000
NP001	BRR	Peg06	Koko	C	750.000
NP002	PEMDA	Peg01	Anton	A	1.000.000
NP002	PEMDA	Peg12	Sita	B	900.000
NP002	PEMDA	Peg14	Yusni	B	900.000
NP003	CBR	Peg02	Paula	B	900.000
NP003	CBR	Peg03	Daniar	C	750.000
NP003	CBR	Peg04	Lubis	C	750.000
NP004	ASK	Peg07	Keni	B	900.000
NP004	ASK	Peg08	Sofi	B	900.000
NP004	ASK	Peg06	Yuni	C	750.000
NP005	OB	Peg15	Udin	D	500.000
NP005	OB	Peg16	Didit	D	500.000
NP005	OB	Peg17	Dani	D	500.000

- a. Deskripsikan struktur data dari table-tabel berikut serta isikan datanya:

Table Pegawai {Nopegawai, NamaPegawai}

Tabel Golongan {Golongan}

Tabel Proyek {Noprojek}

Tabel Proyekpegawai {Noprojek}

```
MariaDB [pegawai]> create table pegawai(
  -> nopegawai char(12) not null primary key,
  -> namapegawai varchar(30));
Query OK, 0 rows affected (0.52 sec)

MariaDB [pegawai]> create table golongan(
  -> golongan char(2) not null primary key);
Query OK, 0 rows affected (0.39 sec)

MariaDB [pegawai]> create table Proyek(
  -> Noprojek char(12));
Query OK, 0 rows affected (0.36 sec)

MariaDB [pegawai]> create table ProyekPegawai(
  -> Noprojek char(12));
Query OK, 0 rows affected (0.32 sec)
```

- b. Tambahkan kolom Golongan pada tabel Pegawai di kolom terakhir -----

```
MariaDB [pegawai]> alter table pegawai add golongan char(2);
Query OK, 0 rows affected (0.64 sec)
Records: 0 Duplicates: 0 Warnings: 0

MariaDB [pegawai]> alter table pegawai add foreign key (golongan) references golongan(golongan);
Query OK, 0 rows affected (1.78 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

- c. Tambahkan kolom BesarGaji pada tabel Golongan di kolom terakhir -----

```
MariaDB [pegawai]> alter table golongan add besar_gaji int;
Query OK, 0 rows affected (0.68 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

- d. Tambahkan kolom NamaProyek pada table Proyek -----

```
MariaDB [pegawai]> alter table proyek add nama_proyek varchar(30);
Query OK, 0 rows affected (0.56 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

- e. Tambahkan kolom NoPegawai pada table Proyekpegawai serta berikanlah kunci foreign key

```
MariaDB [pegawai]> alter table proyekpegawai add nopegawai char(12);
Query OK, 0 rows affected (0.66 sec)
Records: 0 Duplicates: 0 Warnings: 0

MariaDB [pegawai]> alter table proyekpegawai add foreign key (nopegawai) references pegawai(nopegawai);
Query OK, 0 rows affected (0.97 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

- f. Tampilkan semua data yang ada pada tiap tabel

```
MariaDB [pegawai]> select*from pegawai
-> ;
```

nopegawai	namapegawai	golongan
peg01	Anton	A
peg02	Paula	B
peg03	Diniar	C
peg04	Lubis	C
peg06	Koko	C
peg07	Keni	B
peg08	Sofi	B
peg12	Sita	B
peg14	Yusni	B
peg15	Udin	D
peg16	Didit	D
peg17	Dani	D

```
12 rows in set (0.00 sec)
```

```
MariaDB [pegawai]> select*from proyek;
```

Noprojek	nama_proyek
NP001	BRR
NP002	PEMDA
NP003	CBR
NP004	ASK
NP005	OB

```
5 rows in set (0.00 sec)
```

```
MariaDB [pegawai]> select*from golongan;
```

golongan	besar_gaji
A	1000000
B	900000
C	750000
D	500000

```
4 rows in set (0.00 sec)
```

```

MariaDB [pegawai]> select*from proyekpegawai;
+-----+-----+
| Noprojek | nopegawai |
+-----+-----+
| NP001    | peg01     |
| NP001    | peg02     |
| NP001    | peg06     |
| NP002    | peg01     |
| NP002    | peg12     |
| NP002    | peg14     |
| NP003    | peg02     |
| NP003    | peg03     |
| NP003    | peg04     |
| NP004    | peg07     |
| NP004    | peg08     |
| NP004    | peg06     |
| NP005    | peg15     |
| NP005    | peg16     |
| NP005    | peg17     |
+-----+-----+
15 rows in set (0.00 sec)

```

tapi sebelum itu perlu ditambahkan data nya seperti berikut :

```

MariaDB [pegawai]> insert into proyekpegawai values
-> ('NP001','peg01'),
-> ('NP001','peg02'),
-> ('NP001','peg06'),
-> ('NP002','peg01'),
-> ('NP002','peg12'),
-> ('NP002','peg14'),
-> ('NP003','peg02'),
-> ('NP003','peg03'),
-> ('NP003','peg04'),
-> ('NP004','peg07'),
-> ('NP004','peg08'),
-> ('NP004','peg06'),
-> ('NP005','peg15'),
-> ('NP005','peg16'),
-> ('NP005','peg17');
Query OK, 15 rows affected (0.10 sec)
Records: 15 Duplicates: 0 Warnings: 0

```

```

MariaDB [pegawai]> insert into proyek values
-> ('NP001','BRR'),
-> ('NP002','PEMDA'),
-> ('NP003','CBR'),
-> ('NP004','ASK'),
-> ('NP005','OB');
Query OK, 5 rows affected (0.19 sec)
Records: 5 Duplicates: 0 Warnings: 0

```

```

MariaDB [pegawai]> insert into golongan values
-> ('A',1000000),
-> ('B',900000),
-> ('C',750000),
-> ('D',500000);
Query OK, 4 rows affected (0.08 sec)
Records: 4 Duplicates: 0 Warnings: 0

```

```

MariaDB [pegawai]> insert into pegawai values
-> ('peg01','Anton','A'),
-> ('peg02','Paula','B'),
-> ('peg06','Koko','C'),
-> ('peg12','Sita','B'),
-> ('peg14','Yusni','B'),
-> ('peg03','Diniar','C'),
-> ('peg04','Lubis','C'),
-> ('peg07','Keni','B'),
-> ('peg08','Sofi','B'),
-> ('peg15','Udin','D'),
-> ('peg16','Didit','D'),
-> ('peg17','Dani','D');
Query OK, 12 rows affected (0.18 sec)
Records: 12 Duplicates: 0 Warnings: 0

```