

**PRACTICAL REPORT**

**MODUL 6**

**DATABASE SYSTEMS**



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## 1. Activity

```
Command Prompt - mysql -u root
C:\xampp\mysql\bin>mysql -u root
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 8
Server version: 10.4.11-MariaDB mariadb.org binary distribution

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]> show databases
+-----+
| Database |
+-----+
| aviation |
| information_schema |
| mysql |
| perbankan |
| performance_schema |
| phpmyadmin |
| test |
+-----+
7 rows in set (0.114 sec)

MariaDB [(none)]> use perbankan
Database changed
MariaDB [perbankan]> SELECT nama_cabang, alamat_cabang FROM cabang_bank ORDER BY nama_cabang;
+-----+-----+
| nama_cabang | alamat_cabang |
+-----+-----+
| Bank Rut Unit Ambarawa | Jl. Hasanudin 81 |
| Bank Rut Unit Boyolali | Jl. Ahmad Yani 45 |
| Bank Rut Unit Cilacap | Jl. P. Tendean 63 |
| Bank Rut Unit Demak | Jl. Ahmad Yani 45 |
| Bank Rut Unit Grogol | Jl. Suparman 23 |
| Bank Rut Unit Jepara | Jl. Anggrek 21 |
| Bank Rut Unit Klaten | Jl. Suparman 23 |
| Bank Rut Unit Lamongan | Jl. Untung Suropati 12 |
| Bank Rut Unit Ngawi | Jl. Manggis 81 |
| Bank Rut Unit Pati | Jl. Jendral Sudirman 12 |
| Bank Rut Unit Rembang | Jl. MT. Haryono 31 |
| Bank Rut Unit Surakarta | Jl. Slamet Riyadi 18 |
| Bank Rut Unit Tawangmangu | Jl. Slamet Riyadi 18 |
| Bank Rut Unit Wonogiri | Jl. A. Yani 23 |
| Bank Rut Unit Yogyakarta | Jl. Anggrek 21 |
+-----+-----+
15 rows in set (0.202 sec)
```

Picture 1.1. login as root into MySQL and show name and address of bank sorted by name of the bank

```
Command Prompt - mysql -u root
MariaDB [perbankan]> SELECT no_rekening, pin, saldo FROM rekening ORDER BY saldo DESC;
+-----+-----+-----+
| no_rekening | pin | saldo |
+-----+-----+-----+
| 108 | 0 | 5000000 |
| 106 | 6666 | 3000000 |
| 105 | 5555 | 2000000 |
| 107 | 7777 | 1000000 |
| 104 | 4444 | 900000 |
| 103 | 3333 | 750000 |
| 110 | 1234 | 550000 |
| 101 | 1111 | 500000 |
| 123 | 1357 | 500000 |
| 122 | 9900 | 450000 |
| 121 | 7788 | 400000 |
| 102 | 2222 | 350000 |
| 120 | 5566 | 350000 |
| 112 | 123 | 300000 |
| 119 | 3344 | 300000 |
| 113 | 8888 | 255000 |
| 118 | 1122 | 250000 |
| 117 | 7890 | 200000 |
| 116 | 3456 | 150000 |
| 111 | 4321 | 150000 |
| 115 | 9012 | 100000 |
| 114 | 5678 | 50000 |
| 109 | 9999 | 0 |
+-----+-----+-----+
23 rows in set (0.105 sec)

MariaDB [perbankan]>
```

Picture 1.2. show account number, pin, amount from account sorted by amount from biggest to lowest

## 2. Assignment

```
Command Prompt - mysql -u root
MariaDB [perbankan]> SELECT nama_nasabah, alamat_nasabah FROM nasabah ORDER BY nama_nasabah
-> ;
```

nama_nasabah	alamat_nasabah
Agus Warsito	Jl. Jendral Sudirman 12
Budi Eko Prayogo	Jl. Kantil 30
Budi Murtono	Jl. Merak 22
Canka Lokananta	Jl. Tidar 86
Enzo Araisena Kurniaji	Jl. Pangandaran 11
Galan Kresna Kurniaji	Jl. Slamet Riyadi 45
Ganang Ramadhan Kurniaji	Jl. Hasanudin 81
Ganno Tribuana Kurniaji	Jl. Tidar 86
Isti Puput Susanti	Jl. Manggis 15
Kartika Padmasari	Jl. Manggis 15
Maryati	Jl. MT. Haryono 31
Muhammad Reynand Kurniaji	Jl. Kantil 30
Nur Annida I'ffah Supardi	Jl. Merak 22
Nurma Sabila Hikmayanti	Jl. Sutoyo 5
Sari Murti	Jl. Pangandaran 11
Satria Eka Jaya	Jl. Slamet Riyadi 45
Sri Harnani	Jl. MT. Haryono 31
Suparman	Jl. Hasanudin 81
Sutopo	Jl. Jendral Sudirman 12

```
19 rows in set (0.000 sec)

MariaDB [perbankan]> |
```

Picture 2.1. Show name and address of customer sorted by name of the customer

```
Command Prompt - mysql -u root
MariaDB [perbankan]> SELECT jenis_transaksi, jumlah FROM transaksi WHERE jenis_transaksi = "kredit";
```

jenis_transaksi	jumlah
kredit	20000
kredit	30000
kredit	200000
kredit	150000
kredit	50000
kredit	200000
kredit	100000
kredit	20000
kredit	50000
kredit	200000
kredit	100000
kredit	100000
kredit	200000
kredit	500000
kredit	550000
kredit	600000
kredit	650000
kredit	700000
kredit	750000
kredit	800000
kredit	850000
kredit	900000
kredit	950000
kredit	1000000

```
24 rows in set (0.043 sec)

MariaDB [perbankan]> |
```

Picture 2.2. Show transaction type and transaction amount where type of th transaction is credit

Command Prompt - mysql -u root

MariaDB [perbankan]> SELECT jenis\_transaksi, jumlah FROM transaksi WHERE tanggal="0000-00-00" ORDER BY jumlah  
-> ;

jenis_transaksi	jumlah
debit	20000
kredit	20000
debit	20000
kredit	20000
debit	20000
kredit	30000
debit	40000
debit	40000
debit	40000
debit	50000
kredit	50000
debit	50000
debit	50000
debit	50000
debit	50000
kredit	50000
debit	50000
debit	50000
debit	50000
kredit	100000
kredit	100000
debit	100000
kredit	100000
debit	100000
debit	100000
debit	100000
debit	100000
debit	150000
kredit	150000
kredit	200000
debit	200000
kredit	200000
kredit	200000
kredit	200000
debit	250000
debit	300000
debit	350000
debit	400000
debit	450000
kredit	500000
kredit	550000
kredit	600000
kredit	650000
kredit	700000

Picture 2.3. show transaction type and transaction amount which did the transaction on 21 November 2009 and sorted by transaction amount

```

Command Prompt - mysql -u root
MariaDB [perbankan]> SELECT nama_nasabah, jenis_transaksi, jumlah FROM nasabah, transaksi WHERE jumlah=20000
-> ;
+-----+-----+-----+
| nama_nasabah | jenis_transaksi | jumlah |
+-----+-----+-----+
| Sutopo       | kredit         | 20000  |
| Maryati      | kredit         | 20000  |
| Suparman     | kredit         | 20000  |
| Kartika Padmasari | kredit       | 20000  |
| Budi Eko Prayogo | kredit       | 20000  |
| Satria Eka Jaya | kredit       | 20000  |
| Sari Murti   | kredit         | 20000  |
| Canka Lokananta | kredit       | 20000  |
| Budi Murtono | kredit         | 20000  |
| Agus Warsito | kredit         | 20000  |
| Sri Harnani  | kredit         | 20000  |
| Ganang Ramadhan Kurniaji | kredit   | 20000  |
| Isti Puput Susanti | kredit      | 20000  |
| Muhammad Reynand Kurniaji | kredit   | 20000  |
| Galan Kresna Kurniaji | kredit    | 20000  |
| Nurma Sabila Hikmayanti | kredit   | 20000  |
| Enzo Araisena Kurniaji | kredit    | 20000  |
| Ganno Tribuana Kurniaji | kredit    | 20000  |
| Nur Annida I'ffah Supardi | kredit    | 20000  |
| Sutopo       | debit          | 20000  |
| Maryati      | debit          | 20000  |
| Suparman     | debit          | 20000  |
| Kartika Padmasari | debit       | 20000  |
| Budi Eko Prayogo | debit       | 20000  |
| Satria Eka Jaya | debit       | 20000  |
| Sari Murti   | debit          | 20000  |
| Canka Lokananta | debit       | 20000  |
| Budi Murtono | debit          | 20000  |
| Agus Warsito | debit          | 20000  |
| Sri Harnani  | debit          | 20000  |
| Ganang Ramadhan Kurniaji | debit    | 20000  |
| Isti Puput Susanti | debit      | 20000  |
| Muhammad Reynand Kurniaji | debit    | 20000  |
| Galan Kresna Kurniaji | debit     | 20000  |
| Nurma Sabila Hikmayanti | debit     | 20000  |
| Enzo Araisena Kurniaji | debit     | 20000  |
| Ganno Tribuana Kurniaji | debit     | 20000  |
| Nur Annida I'ffah Supardi | debit     | 20000  |
| Sutopo       | kredit         | 20000  |
| Maryati      | kredit         | 20000  |
| Suparman     | kredit         | 20000  |
| Kartika Padmasari | kredit       | 20000  |
| Budi Eko Prayogo | kredit       | 20000  |
| Satria Eka Jaya | kredit       | 20000  |

```

Picture 2.4. Show customer name, transaction type, and transaction amount where amount of transaction is Rp 20.000

```

Command Prompt - mysql -u root
MariaDB [perbankan]> SELECT nama_nasabah, alamat_nasabah FROM nasabah WHERE nama_nasabah LIKE "Su%";
+-----+-----+
| nama_nasabah | alamat_nasabah |
+-----+-----+
| Sutopo       | Jl. Jendral Sudirman 12 |
| Suparman     | Jl. Hasanudin 81 |
+-----+-----+
2 rows in set (0.000 sec)

MariaDB [perbankan]>

```

Picture 2.5. show customer name and address where customer name begins with "Su"

### Question

Displays the customer's name and the address of the customer where the customer's name contains the name "Kurniaji" and starts with "Ga"!

## Answer

```
Command Prompt - mysql -u root
MariaDB [perbankan]> SELECT nama_nasabah, alamat_nasabah FROM nasabah WHERE nama_nasabah LIKE "%Kurniaji" AND nama_nasabah LIKE "Ga%";
+-----+-----+
| nama_nasabah | alamat_nasabah |
+-----+-----+
| Ganang Ramadhan Kurniaji | Jl. Hasanudin 81 |
| Galan Kresna Kurniaji | Jl. Slamet Riyadi 45 |
| Ganno Tribuana Kurniaji | Jl. Tidar 86 |
+-----+-----+
3 rows in set (0.000 sec)

MariaDB [perbankan]> |
```

Picture 2.6. Show the customer's name and the address of the customer where the customer's last name contains "Kurniaji" and starts with "Ga"!

## Question

Displays the customer's name and the address of the customer where the customer's name contains the name "Kurniaji" or starts with "Ga" or the customer name is "Agus Warsito"!

## Answer

```
Command Prompt - mysql -u root
MariaDB [perbankan]> SELECT nama_nasabah, alamat_nasabah FROM nasabah WHERE nama_nasabah LIKE "%Kurniaji" OR nama_nasabah LIKE "Ga%" OR nama_nasabah="Agus Warsito";
+-----+-----+
| nama_nasabah | alamat_nasabah |
+-----+-----+
| Agus Warsito | Jl. Jendral Sudirman 12 |
| Ganang Ramadhan Kurniaji | Jl. Hasanudin 81 |
| Muhammad Reynand Kurniaji | Jl. Kantil 30 |
| Galan Kresna Kurniaji | Jl. Slamet Riyadi 45 |
| Enzo Araisena Kurniaji | Jl. Pangandaran 11 |
| Ganno Tribuana Kurniaji | Jl. Tidar 86 |
+-----+-----+
6 rows in set (0.000 sec)

MariaDB [perbankan]> |
```

Picture 2.7. Show the customer's name and the address of the customer where the customer's name contains the name "Kurniaji" or starts with "Ga" or the customer name is "Agus Warsito"!

## Question

Displays account table sorted by transaction amount with limit 5 and offset 2!

## Answer

```
Command Prompt - mysql -u root
MariaDB [perbankan]> SELECT * FROM rekening ORDER BY saldo LIMIT 5 OFFSET 2;
+-----+-----+-----+-----+
| no_rekening | kode_cabangFK | pin | saldo |
+-----+-----+-----+-----+
| 115 | BRUM | 9012 | 100000 |
| 116 | BRUB | 3456 | 150000 |
| 111 | BRUK | 4321 | 150000 |
| 117 | BRUK | 7890 | 200000 |
| 118 | BRUY | 1122 | 250000 |
+-----+-----+-----+-----+
5 rows in set (0.002 sec)

MariaDB [perbankan]> |
```

Picture 2.8. Show account table sorted by transaction amount with limit 5 and offset 2!

## Question

Displays the customer table where the customer's name is "Ganno" and the customer's address is not null

## Answer

```

Command Prompt - mysql -u root
MariaDB [perbankan]> SELECT * FROM nasabah WHERE nama_nasabah="Ganno Tribuana Kurniaji" AND alamat_nasabah IS NOT NULL;
+-----+-----+-----+
| id_nasabah | nama_nasabah          | alamat_nasabah |
+-----+-----+-----+
|          19 | Ganno Tribuana Kurniaji | Jl. Tidar 86   |
+-----+-----+-----+
1 row in set (0.001 sec)

MariaDB [perbankan]> |

```

Picture 2.9. Show the customer's name where the customer's name is "Ganno" and the customer's address is not null

### Question

Displays a transaction table in which the transaction type is debit and the number is not null, sorted by the amount with a limit of 10 and offset of 5

### Answer

```

Command Prompt - mysql -u root
MariaDB [perbankan]> SELECT * FROM transaksi WHERE jenis_transaksi="debit" AND jumlah IS NOT NULL ORDER BY jumlah LIMIT 10 OFFSET 5;
+-----+-----+-----+-----+-----+-----+
| no_transaksi | id_nasabahFK | no_rekeningFK | jenis_transaksi | tanggal          | jumlah |
+-----+-----+-----+-----+-----+-----+
|          14 |          3 |          105 | debit          | 0000-00-00 00:00:00 | 40000 |
|          24 |          1 |          104 | debit          | 0000-00-00 00:00:00 | 50000 |
|           1 |          3 |          105 | debit          | 0000-00-00 00:00:00 | 50000 |
|          26 |          4 |          101 | debit          | 0000-00-00 00:00:00 | 50000 |
|          31 |          1 |          101 | debit          | 0000-00-00 00:00:00 | 50000 |
|          18 |          5 |          102 | debit          | 0000-00-00 00:00:00 | 50000 |
|          17 |          2 |          103 | debit          | 0000-00-00 00:00:00 | 50000 |
|          12 |          1 |          104 | debit          | 0000-00-00 00:00:00 | 50000 |
|           4 |          3 |          106 | debit          | 0000-00-00 00:00:00 | 50000 |
|          11 |          2 |          103 | debit          | 0000-00-00 00:00:00 | 100000 |
+-----+-----+-----+-----+-----+-----+
10 rows in set (0.001 sec)

MariaDB [perbankan]>

```

Picture 2.10. Show a transaction table in which the transaction type is debit and the number is not null, sorted by the amount with a limit of 10 and offset of 5

### Question

Displays the customer's name and the address of the customer where the customer's name contains the name "Kurniaji" and starts with "Ga"!

### Answer

```

Command Prompt - mysql -u root
MariaDB [perbankan]> SELECT nama_nasabah, alamat_nasabah FROM nasabah WHERE nama_nasabah LIKE "%Kurniaji" AND nama_nasabah LIKE "Ga%";
+-----+-----+
| nama_nasabah | alamat_nasabah |
+-----+-----+
| Ganang Ramadhan Kurniaji | Jl. Hasanudin 81 |
| Galan Kresna Kurniaji    | Jl. Slamet Riyadi 45 |
| Ganno Tribuana Kurniaji  | Jl. Tidar 86   |
+-----+-----+
3 rows in set (0.000 sec)

MariaDB [perbankan]> |

```

Picture 2.11. Show the customer's name and the address of the customer where the customer's last name contains "Kurniaji" and starts with "Ga"!

### Question

Displays the customer's name and the address of the customer where the customer's name contains the name "Kurniaji" or starts with "Ga" or the customer name is "Agus Warsito"!

### Answer



```

Command Prompt - mysql -u root
MariaDB [perbankan]> SELECT nama_nasabah, alamat_nasabah FROM nasabah WHERE nama_nasabah LIKE "%Kurniaji" OR nama_nasabah LIKE "Ga%" OR nama_nasabah="Agus Warsito";
+-----+-----+
| nama_nasabah | alamat_nasabah |
+-----+-----+
| Agus Warsito | Jl. Jendral Sudirman 12 |
| Ganang Ramadhan Kurniaji | Jl. Hasanudin 81 |
| Muhammad Reynand Kurniaji | Jl. Kantil 30 |
| Galan Kresna Kurniaji | Jl. Slamet Riyadi 45 |
| Enzo Araisena Kurniaji | Jl. Pangandaran 11 |
| Ganno Tribuana Kurniaji | Jl. Tidar 86 |
+-----+-----+
6 rows in set (0.000 sec)

MariaDB [perbankan]>

```

Picture 2.12. Show the customer's name and the address of the customer where the customer's name contains the name "Kurniaji" or starts with "Ga" or the customer name is "Agus Warsito"!

### Question

Displays account table sorted by transaction amount with limit 5 and offset 2!

### Answer

```

Command Prompt - mysql -u root
MariaDB [perbankan]> SELECT * FROM rekening ORDER BY saldo LIMIT 5 OFFSET 2;
+-----+-----+-----+-----+
| no_rekening | kode_cabangFK | pin | saldo |
+-----+-----+-----+-----+
| 115 | BRUM | 9012 | 100000 |
| 116 | BRUB | 3456 | 150000 |
| 111 | BRUK | 4321 | 150000 |
| 117 | BRUK | 7890 | 200000 |
| 118 | BRUY | 1122 | 250000 |
+-----+-----+-----+-----+
5 rows in set (0.002 sec)

MariaDB [perbankan]> |

```

Picture 2.13. Show account table sorted by transaction amount with limit 5 and offset 2!

### Question

Displays the customer table where the customer's name is "Ganno" and the customer's address is not null

### Answer

```

Command Prompt - mysql -u root
MariaDB [perbankan]> SELECT * FROM nasabah WHERE nama_nasabah="Ganno Tribuana Kurniaji" AND alamat_nasabah IS NOT NULL;
+-----+-----+-----+
| id_nasabah | nama_nasabah | alamat_nasabah |
+-----+-----+-----+
| 19 | Ganno Tribuana Kurniaji | Jl. Tidar 86 |
+-----+-----+-----+
1 row in set (0.001 sec)

MariaDB [perbankan]> |

```

Picture 2.14. Show the customer's name where the customer's name is "Ganno" and the customer's address is not null

### Question

Displays a transaction table in which the transaction type is debit and the number is not null, sorted by the amount with a limit of 10 and offset of 5

### Answer

```
Command Prompt - mysql -u root
MariaDB [perbankan]> SELECT * FROM transaksi WHERE jenis_transaksi="debit" AND jumlah IS NOT NULL ORDER BY jumlah LIMIT 10 OFFSET 5;
+-----+-----+-----+-----+-----+-----+
| no_transaksi | id_nasabahFK | no_rekeningFK | jenis_transaksi | tanggal          | jumlah |
+-----+-----+-----+-----+-----+-----+
| 14          | 3            | 105           | debit           | 0000-00-00 00:00:00 | 40000 |
| 24          | 1            | 104           | debit           | 0000-00-00 00:00:00 | 50000 |
| 1           | 3            | 105           | debit           | 0000-00-00 00:00:00 | 50000 |
| 26          | 4            | 101           | debit           | 0000-00-00 00:00:00 | 50000 |
| 31          | 1            | 101           | debit           | 0000-00-00 00:00:00 | 50000 |
| 18          | 5            | 102           | debit           | 0000-00-00 00:00:00 | 50000 |
| 17          | 2            | 103           | debit           | 0000-00-00 00:00:00 | 50000 |
| 12          | 1            | 104           | debit           | 0000-00-00 00:00:00 | 50000 |
| 4           | 3            | 106           | debit           | 0000-00-00 00:00:00 | 50000 |
| 11          | 2            | 103           | debit           | 0000-00-00 00:00:00 | 100000 |
+-----+-----+-----+-----+-----+-----+
10 rows in set (0.001 sec)

MariaDB [perbankan]>
```

Picture 2.15. Show a transaction table in which the transaction type is debit and the number is not null, sorted by the amount with a limit of 10 and offset of 5