```
MariaDB [dbimplementasi]> select * from mahasiswa;
+-----+------+---------------+------------+
| nim | nama | jenis_kelamin | alamat     |
+-----+------+---------------+------------+
| 101 | arif | L             | Jl.Kenangan |
| 102 | Budi | L             | Jl.Jombang  |
| 103 | wati | P             | Jl.Surabaya |
| 104 | ika  | P             | Jl.Jombang  |
| 105 | tono | L             | Jl.Jakarta  |
| 106 | iwan | L             | Jl.Bandung  |
| 107 | sari | P             | Jl.Malang   |
+-----+------+---------------+------------+
7 rows in set (0.000 sec)

MariaDB [dbimplementasi]> select * from ambil_mk
    -> ;
+-----+---------+
| nim | kode_mk |
+-----+---------+
| 101 | PTI447  |
| 103 | TIK333  |
| 104 | PTI333  |
| 104 | PTI333  |
| 104 | PTI777  |
| 111 | PTI123  |
| 123 | PTI999  |
+-----+---------+
7 rows in set (0.000 sec)

MariaDB [dbimplementasi]> select * from matakuliah
    -> ;
+---------+----------------------+------+----------+
| kode_mk | nama_mk              | sks  | semester |
+---------+----------------------+------+----------+
| PTI447  | Praktikkum Basis Dat |   1  |        3 |
| TIK342  | Praktikkum Basis Dat |   1  |        3 |
| PTI333  | Basis Data Terdistri |   3  |        5 |
| TIK123  | Jaringan Komputer    |   2  |        5 |
| TIK333  | Sistem Operasi       |   3  |        5 |
| PTI123  | Grafika Multimaedia  |   3  |        5 |
| PTI777  | Sistem Informasi     |   2  |        3 |
+---------+----------------------+------+----------+
7 rows in set (0.000 sec)
```

```
MariaDB [dbimplementasi]> SELECT COUNT(DISTINCT mahasiswa.nim) AS mahasiswa_yang_mat
kul FROM mahasiswa INNER JOIN ambil_mk ON mahasiswa.nim = ambil_mk.nim;
+-------------------------------+
| mahasiswa_yang_mengambil_matkul |
+-------------------------------+
|                             3 |
+-------------------------------+
1 row in set (0.067 sec)

MariaDB [dbimplementasi]> SELECT jenis_kelamin, COUNT(jenis_kelamin)AS jumlah FROM mahasiswa L
EFT OUTER JOIN ambil_mk ON mahasiswa.nim = ambil_mk.nim WHERE ambil_mk.nim IS NULL GROUP BY je
nis_kelamin;
+---------------+--------+
| jenis_kelamin | jumlah |
+---------------+--------+
| L             |      3 |
| P             |      1 |
+---------------+--------+
2 rows in set (0.024 sec)
```

```
MariaDB [dbimplementasi]> SELECT mahasiswa.nim, nama, matakuliah.kode_mk, nama_mk FROM mahasis
wa, matakuliah, ambil_mk WHERE matakuliah.kode_mk = ambil_mk.kode_mk AND mahasiswa.nim = ambil
_mk.nim;
+------+------+---------+-----------------------+
| nim  | nama | kode_mk | nama_mk               |
+------+------+---------+-----------------------+
| 101  | arif | PTI447  | Praktikkum Basis Dat  |
| 103  | wati | TIK333  | Sistem Operasi        |
| 104  | ika  | PTI333  | Basis Data Terdistri  |
| 104  | ika  | PTI333  | Basis Data Terdistri  |
| 104  | ika  | PTI777  | Sistem Informasi      |
+------+------+---------+-----------------------+
5 rows in set (0.001 sec)

MariaDB [dbimplementasi]> SELECT mahasiswa.nim, nama, sum(sks) AS jumlah_sks FROM mahasiswa IN
NER JOIN (matakuliah INNER JOIN ambil_mk ON matakuliah.kode_mk = ambil_mk.kode_mk) ON mahasisw
a.nim = ambil_mk.nim GROUP BY NAMA HAVING SUM(sks)>4 AND SUM(sks)<10;
+------+------+------------+
| nim  | nama | jumlah_sks |
+------+------+------------+
| 104  | ika  |          8 |
+------+------+------------+
1 row in set (0.042 sec)

MariaDB [dbimplementasi]> SELECT matakuliah.kode_mk, nama_mk, sks, semester FROM matakuliah LE
FT OUTER JOIN (mahasiswa LEFT OUTER JOIN ambil_mk ON mahasiswa.nim = ambil_mk.nim) ON matakuli
ah.kode_mk = ambil_mk.kode_mk WHERE mahasiswa.nim IS NULL;
+---------+----------------------+------+----------+
| kode_mk | nama_mk              | sks  | semester |
+---------+----------------------+------+----------+
| TIK342  | Praktikkum Basis Dat |   1  |        3 |
| TIK123  | Jaringan Komputer    |   2  |        5 |
| PTI123  | Grafika Multimaedia  |   3  |        5 |
+---------+----------------------+------+----------+
3 rows in set (0.001 sec)
```

```
MariaDB [(none)]> use universitas;
Database changed
MariaDB [universitas]> select * from instruktur;
+-----+-------------------+---------------+----------+
| nip | nama_ins          | jurusan       | asal_kota |
+-----+-------------------+---------------+----------+
|   1 | Muhammad Akbar    | Ilmu Sejarah  | Malang   |
|   2 | Saichul Fitrian A. | Ilmu Komputer | Malang   |
|   3 | Annafia Oktafian  | Ilmu Komputer | Klaten   |
|   4 | Budy Pratama      | Ilmu Komputer | Magelang |
+-----+-------------------+---------------+----------+
4 rows in set (0.000 sec)

MariaDB [universitas]> select * from matakuliah;
+--------+------------------------+-----+
| kd_mk  | nama_mk                | sks |
+--------+------------------------+-----+
| PTI101 | Algoritma dan Pemograman | 3 |
| PTI102 | Basis Data             |   3 |
| PTI103 | Visual Basic           |   3 |
| IS101  | Sejarah Indonesia      |   3 |
+--------+------------------------+-----+
4 rows in set (0.000 sec)

MariaDB [universitas]> select * from ambil_mk;
+-----+--------+---------+---------+
| nip | kd_mk  | ruangan | jml_mhs |
+-----+--------+---------+---------+
|   3 | PTI101 | H5211   |      40 |
|   2 | PTI102 | H5212   |      45 |
|   2 | PTI103 | H5206   |      40 |
|   1 | IS101  | 17312   |      30 |
+-----+--------+---------+---------+
4 rows in set (0.000 sec)
```

```
MariaDB [universitas]> SELECT instruktur.nip, nama_ins, jurusan, asal_kota, nama_mk FROM instr
uktur INNER JOIN (matakuliah INNER JOIN ambil_mk ON matakuliah.kd_mk = ambil_mk.kd_mk) ON inst
ruktur.nip = ambil_mk.nip WHERE nama_mk = "Basis Data";
+-----+-------------------+----------------+-----------+-------------+
| nip | nama_ins          | jurusan        | asal_kota | nama_mk     |
+-----+-------------------+----------------+-----------+-------------+
|   2 | Saichul Fitrian A.| Ilmu Komputer  | Malang    | Basis Data  |
+-----+-------------------+----------------+-----------+-------------+
1 row in set (0.001 sec)

MariaDB [universitas]> SELECT instruktur.nip, nama_ins, jurusan, asal_kota FROM instruktur LEF
T OUTER JOIN ambil_mk ON instruktur.nip = ambil_mk.nip WHERE ambil_mk.nip IS NULL
    -> ;
+-----+---------------+----------------+-----------+
| nip | nama_ins      | jurusan        | asal_kota |
+-----+---------------+----------------+-----------+
|   4 | Budy Pratama  | Ilmu Komputer  | Magelang  |
+-----+---------------+----------------+-----------+
1 row in set (0.001 sec)

MariaDB [universitas]> SELECT ambil_mk.kd_mk, nama_mk, jml_mhs FROM matakuliah INNER JOIN ambi
l_mk ON matakuliah.kode_mk = ambil_mk.kd_mk WHERE jml_mhs=40;
ERROR 1054 (42S22): Unknown column 'matakuliah.kode_mk' in 'on clause'
MariaDB [universitas]> SELECT ambil_mk.kd_mk, nama_mk, jml_mhs FROM matakuliah INNER JOIN ambi
l_mk ON matakuliah.kd_mk = ambil_mk.kd_mk WHERE jml_mhs=40;
+--------+-------------------------+---------+
| kd_mk  | nama_mk                 | jml_mhs |
+--------+-------------------------+---------+
| PTI101 | Algoritma dan Pemograman|      40 |
| PTI103 | Visual Basic            |      40 |
+--------+-------------------------+---------+
2 rows in set (0.000 sec)
```

```
MariaDB [(none)]> use belanja;
Database changed
MariaDB [belanja]> select * from customer;
+-------------+---------------+------------------+
| customer_id | customer_name | customer_address |
+-------------+---------------+------------------+
| CS001       | Aan           | Pasuruan         |
| CS002       | Hanif         | Banyuwangi       |
| CS003       | Mirza         | Malang           |
| CS004       | Tanti         | Tegal            |
| CS005       | Budie         | Kediri           |
+-------------+---------------+------------------+
5 rows in set (0.001 sec)

MariaDB [belanja]> select * from orders;
+----------+------------+-------------+------+--------+
| order_id | order_date | customer_id | qty  | amount |
+----------+------------+-------------+------+--------+
| CS001    | 10-12-2016 | CS001       |    1 |  40000 |
| CS002    | 11-01-2017 | CS002       |    2 |  50000 |
| CS003    | 12-01-2017 | CS005       |    3 |  35000 |
+----------+------------+-------------+------+--------+
3 rows in set (0.000 sec)
```

```
MariaDB [belanja]> SELECT customer.customer_id, customer_name, customer_address, order_id, ord
er_date,qty, amount FROM customer INNER JOIN orders ON customer.customer_id = orders.customer_
id;
+-------------+---------------+------------------+----------+------------+------+--------+
| customer_id | customer_name | customer_address | order_id | order_date | qty  | amount |
+-------------+---------------+------------------+----------+------------+------+--------+
| CS001       | Aan           | Pasuruan         | CS001    | 0000-00-00 |    1 |  40000 |
| CS002       | Hanif         | Banyuwangi       | CS002    | 0000-00-00 |    2 |  50000 |
| CS005       | Budie         | Kediri           | CS003    | 0000-00-00 |    3 |  35000 |
+-------------+---------------+------------------+----------+------------+------+--------+
3 rows in set (0.001 sec)

MariaDB [belanja]> SELECT customer.customer_id, customer_name, customer_address, order_id, ord
er_date,qty, amount FROM customer LEFT OUTER JOIN orders ON customer.customer_id = orders.cust
omer_id;
+-------------+---------------+------------------+----------+------------+------+--------+
| customer_id | customer_name | customer_address | order_id | order_date | qty  | amount |
+-------------+---------------+------------------+----------+------------+------+--------+
| CS001       | Aan           | Pasuruan         | CS001    | 0000-00-00 |    1 |  40000 |
| CS002       | Hanif         | Banyuwangi       | CS002    | 0000-00-00 |    2 |  50000 |
| CS005       | Budie         | Kediri           | CS003    | 0000-00-00 |    3 |  35000 |
| CS003       | Mirza         | Malang           | NULL     | NULL       | NULL |   NULL |
| CS004       | Tanti         | Tegal            | NULL     | NULL       | NULL |   NULL |
+-------------+---------------+------------------+----------+------------+------+--------+
5 rows in set (0.001 sec)

MariaDB [belanja]> SELECT customer.customer_id, customer_name, customer_address, order_id, ord
er_date,qty, amount FROM customer INNER JOIN orders ON customer.customer_id = orders.customer_
id
    -> UNION
    -> SELECT customer.customer_id, customer_name, customer_address, order_id, order_date, qty
, amount FROM customer
    ->  LEFT OUTER JOIN orders ON customer.customer_id = orders.customer_id;
+-------------+---------------+------------------+----------+------------+------+--------+
| customer_id | customer_name | customer_address | order_id | order_date | qty  | amount |
+-------------+---------------+------------------+----------+------------+------+--------+
| CS001       | Aan           | Pasuruan         | CS001    | 0000-00-00 |    1 |  40000 |
| CS002       | Hanif         | Banyuwangi       | CS002    | 0000-00-00 |    2 |  50000 |
| CS005       | Budie         | Kediri           | CS003    | 0000-00-00 |    3 |  35000 |
| CS003       | Mirza         | Malang           | NULL     | NULL       | NULL |   NULL |
| CS004       | Tanti         | Tegal            | NULL     | NULL       | NULL |   NULL |
+-------------+---------------+------------------+----------+------------+------+--------+
5 rows in set (0.001 sec)
```

```
MariaDB [belanja]> SELECT customer.customer_id, customer_name, customer_address, order_id, ord
er_date FROM customer
    ->    INNER JOIN orders ON customer.customer_id = orders.customer_id
    -> WHERE MONTH(order_date)=0;
+-------------+---------------+------------------+----------+------------+
| customer_id | customer_name | customer_address | order_id | order_date |
+-------------+---------------+------------------+----------+------------+
| CS001       | Aan           | Pasuruan         | CS001    | 0000-00-00 |
| CS002       | Hanif         | Banyuwangi       | CS002    | 0000-00-00 |
| CS005       | Budie         | Kediri           | CS003    | 0000-00-00 |
+-------------+---------------+------------------+----------+------------+
3 rows in set (0.001 sec)
```