

Database System Practicum

Modul 5 – Data Manipulation Language (DML)



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INFORMATION TECHNOLOGY

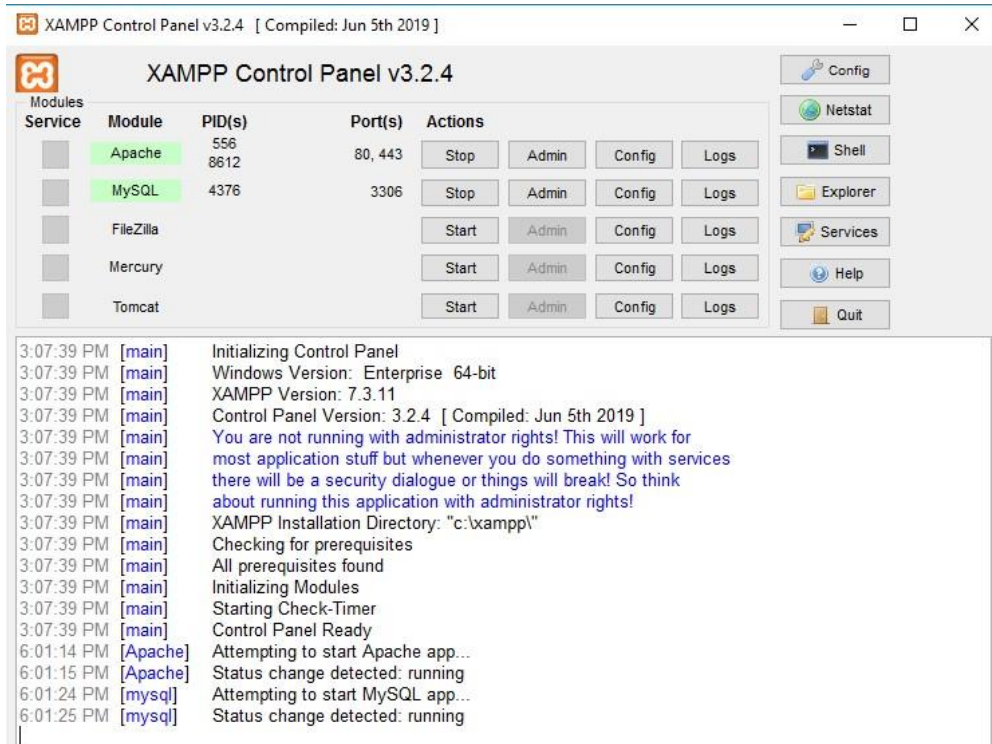
FACULTY OF COMMUNICATION AND INFORMATICS

MUHAMMADIYAH UNIVERSITY OF SURAKARTA

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LATIHAN

1. Run the XAMPP Control Panel 2. Running Apache and MySQL servers



3. Login as root to MySQL in the Command Prompt

```
C:\> Command Prompt - mysql -u root

Microsoft Windows [Version 10.0.10586]
(c) 2015 Microsoft Corporation. All rights reserved.

C:\Users\hp>cd\

C:\>cd C:\xampp\mysql\bin

C:\xampp\mysql\bin>mysql -u root
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 61
Server version: 10.4.8-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.
```

4. Enter the banking database

```
MariaDB [(none)]> use perbankan;
Database changed
MariaDB [perbankan]>
```

5. Entering data

- Data nasabah

```

MariaDB [perbankan]> INSERT INTO nasabah (id_nasabah, nama_nasabah, alamat_nasabah) VALUES
-> (1, 'Sutopo', 'Jl. Jendral Sudirman 12'),
-> (2, 'Maryati', 'Jl. MT Haryono 31'),
-> (3, 'Suparman', 'Jl. Hasanudin 81'),
-> (4, 'Kartika Padmasari', 'Jl. Manggis 15'),
-> (5, 'Budi Eko Prayogo', 'Jl. Kantil 30'),
-> (6, 'Satria Eka Jaya', 'Jl. Slamet Riyadi 45'),
-> (7, 'Indri Hapsari', 'Jl. Sutoyo 5'),
-> (8, 'Sari Murti', 'Jl. Pangandaran 11'),
-> (9, 'Canka Lokananta', 'Jl. Tidar 86'),
-> (10, 'Budi Murtono', 'Jl. Merak 22');
Query OK, 10 rows affected (0.108 sec)
Records: 10 Duplicates: 0 Warnings: 0

```

➤ Data cabang_bank

```

MariaDB [perbankan]> INSERT INTO cabang_bank (kode_cabang, nama_cabang, alamat_cabang) VALUES
-> ('BRUS', 'Bank Rut Unit Surakarta', 'Jl. Slamet Riyadi 18'),
-> ('BRUM', 'Bank Rut Unit Magelang', 'Jl. P. Tendean 63'),
-> ('BRUB', 'Bank Rut Unit Boyolali', 'Jl. Ahmad Yani 45'),
-> ('BRUK', 'Bank Rut Unit Klaten', 'Jl. Suparman 23'),
-> ('BRUY', 'Bank Rut Unit Yogyakarta', 'Jl. Anggrek 21'),
-> ('BRUW', 'Bank Rut Unit Wonogiri', 'Jl. Untung Suropati 12');
Query OK, 6 rows affected (0.169 sec)
Records: 6 Duplicates: 0 Warnings: 0

```

➤ Data rekening

```

MariaDB [perbankan]> INSERT INTO rekening (no_rekening, kode_cabangFK, pin, saldo) VALUES
-> (101, 'BRUS', '1111', 500000),
-> (102, 'BRUS', '2222', 350000),
-> (103, 'BRUS', '3333', 750000),
-> (104, 'BRUM', '4444', 900000),
-> (105, 'BRUM', '5555', 2000000),
-> (106, 'BRUS', '6666', 3000000),
-> (107, 'BRUS', '7777', 1000000),
-> (108, 'BRUB', '8888', 5000000),
-> (109, 'BRUB', '9999', 0),
-> (110, 'BRUY', '1234', 550000),
-> (111, 'BRUK', '4321', 150000),
-> (112, 'BRUK', '0123', 300000),
-> (113, 'BRUY', '8888', 255000);
Query OK, 13 rows affected (0.117 sec)
Records: 13 Duplicates: 0 Warnings: 0

```

➤ Data nasabah_has_rekening

```

MariaDB [perbankan]> INSERT INTO nasabah_has_rekening(id_nasabahFK, no_rekeningFK) VALUES
-> (1, 104),
-> (2, 103),
-> (3, 105),
-> (3, 106),
-> (4, 101),
-> (4, 107),
-> (5, 102),
-> (5, 107),
-> (6, 109),
-> (7, 109),
-> (8, 111),
-> (9, 110),
-> (10, 113),
-> (8, 112),
-> (10, 108);
Query OK, 15 rows affected (0.054 sec)
Records: 15 Duplicates: 0 Warnings: 0

```

➤ Data transaksi

```

MariaDB [perbankan]> INSERT INTO transaksi(no_transaksi, id_nasabahFK, no_rekeningFK, jenis_transaksi, tanggal, jumlah) VALUES
-> (1, 105, 3, 'debit', '2009-11-10', 50000),
-> (2, 103, 2, 'debit', '2009-11-10', 40000),
-> (3, 101, 4, 'kredit', '2009-11-12', 20000),
-> (4, 106, 3, 'debit', '2009-11-13', 50000),
-> (5, 107, 5, 'kredit', '2009-11-13', 30000),
-> (6, 104, 1, 'kredit', '2009-11-15', 200000),
-> (7, 118, 9, 'kredit', '2009-11-15', 150000),
-> (8, 102, 5, 'debit', '2009-11-16', 20000),
-> (9, 105, 3, 'kredit', '2009-11-18', 50000),
-> (10, 107, 4, 'debit', '2009-11-19', 100000),
-> (11, 103, 2, 'debit', '2009-11-19', 100000),
-> (12, 104, 1, 'debit', '2009-11-19', 50000),
-> (13, 107, 4, 'kredit', '2009-11-20', 200000),
-> (14, 105, 3, 'debit', '2009-11-21', 40000),
-> (15, 104, 1, 'kredit', '2009-11-22', 100000),
-> (16, 101, 4, 'kredit', '2009-11-22', 20000),
-> (17, 103, 2, 'debit', '2009-11-22', 50000),
-> (18, 102, 5, 'debit', '2009-11-25', 50000),
-> (19, 108, 10, 'debit', '2009-11-26', 100000),
-> (20, 106, 3, 'kredit', '2009-11-27', 50000),
-> (21, 103, 2, 'kredit', '2009-11-28', 200000),
-> (22, 105, 3, 'kredit', '2009-11-28', 100000),
-> (23, 102, 5, 'debit', '2009-11-30', 20000),
-> (24, 104, 1, 'debit', '2009-12-1', 50000),
-> (25, 103, 2, 'debit', '2009-12-2', 40000),
-> (26, 101, 4, 'debit', '2009-12-4', 50000),
-> (27, 103, 2, 'kredit', '2009-12-5', 100000),
-> (28, 102, 5, 'kredit', '2009-12-5', 200000),
-> (29, 109, 7, 'debit', '2009-12-5', 100000),
-> (30, 110, 9, 'debit', '2009-12-6', 20000);
Query OK, 30 rows affected (0.458 sec)
Records: 30 Duplicates: 0 Warnings: 0

```

6. Update data

- a) The customer with the name “Indri Hapsari” moves address to “Jalan Slamet Riyadi No.34”

```

MariaDB [perbankan]> UPDATE nasabah
-> SET alamat_nasabah = 'Jl. Slamet Riyadi 34'
-> WHERE nama_nasabah = 'Indri Hapsari';
Query OK, 1 row affected (0.089 sec)
Rows matched: 1 Changed: 1 Warnings: 0

```

- Check

```

MariaDB [perbankan]> SELECT * FROM nasabah;
+-----+-----+-----+
| id_nasabah | nama_nasabah | alamat_nasabah |
+-----+-----+-----+
| 1 | Sutopo | Jl. Jendral Sudirman 12 |
| 2 | Maryati | Jl. MT Haryono 31 |
| 3 | Suparman | Jl. Hasanudin 81 |
| 4 | Kartika Padmasari | Jl. Manggis 15 |
| 5 | Budi Eko Prayogo | Jl. Kantil 30 |
| 6 | Satria Eka Jaya | Jl. Slamet Riyadi 45 |
| 7 | Indri Hapsari | Jl. Slamet Riyadi 34 |
| 8 | Sari Murti | Jl. Pangandaran 11 |
| 9 | Canka Lokananta | Jl. Tidar 86 |
| 10 | Budi Murtono | Jl. Merak 22 |
+-----+-----+-----+
10 rows in set (0.001 sec)

```

- b) Cabang with code “BRUW” move to address “Jalan A. Yani No.23”


```
MariaDB [perbankan]> UPDATE cabang_bank
-> SET alamat_cabang = 'Jl. Ahmad Yani No.23'
-> WHERE kode_cabang = 'BRUW';
Query OK, 1 row affected (0.056 sec)
Rows matched: 1 Changed: 1 Warnings: 0
```

- Check

```
MariaDB [perbankan]> SELECT * FROM cabang_bank;
```

kode_cabang	nama_cabang	alamat_cabang
BRUB	Bank Rut Unit Boyolali	Jl. Ahmad Yani 45
BRUK	Bank Rut Unit Klaten	Jl. Suparman 23
BRUM	Bank Rut Unit Magelang	Jl. P. Tendean 63
BRUS	Bank Rut Unit Surakarta	Jl. Slamet Riyadi 18
BRUW	Bank Rut Unit Wonogiri	Jl. Ahmad Yani No.23
BRUY	Bank Rut Unit Yogyakarta	Jl. Anggrek 21

```
6 rows in set (0.000 sec)
```

7. Deleting data

- Nasabah with id “7” close rekening

```
MariaDB [perbankan]> DELETE FROM nasabah
-> WHERE id_nasabah = 7;
Query OK, 1 row affected (0.103 sec)
```

- Check

```
MariaDB [perbankan]> SELECT * FROM nasabah;
```

id_nasabah	nama_nasabah	alamat_nasabah
1	Sutopo	Jl. Jendral Sudirman 12
2	Maryati	Jl. MT Haryono 31
3	Suparman	Jl Hasanudin 81
4	Kartika Padmasari	Jl. Manggis 15
5	Budi Eko Prayogo	Jl. Kantil 30
6	Satria Eka Jaya	Jl. Slamet Riyadi 45
8	Sari Murti	Jl. Pangandaran 11
9	Canka Lokananta	Jl. Tidar 86
10	Budi Murtono	Jl. Merak 22

```
9 rows in set (0.000 sec)
```

- Cabang with nama_cabang “Bank Rut Unit Magelang” close his office

```
MariaDB [perbankan]> DELETE FROM cabang_bank  
-> WHERE kode_cabang = 'BRUM';  
Query OK, 1 row affected (0.100 sec)
```

□ Check

```
MariaDB [perbankan]> SELECT * FROM cabang_bank;  
+-----+-----+-----+  
| kode_cabang | nama_cabang          | alamat_cabang          |  
+-----+-----+-----+  
| BRUB        | Bank Rut Unit Boyolali | Jl. Ahmad Yani 45      |  
| BRUK        | Bank Rut Unit Klaten   | Jl. Superman 23        |  
| BRUS        | Bank Rut Unit Surakarta | Jl. Slamet Riyadi 18   |  
| BRUW        | Bank Rut Unit Wonogiri  | Jl. Ahmad Yani No.23   |  
| BRUY        | Bank Rut Unit Yogyakarta | Jl. Anggrek 21         |  
+-----+-----+-----+  
5 rows in set (0.000 sec)
```

ASSIGNMENT

A. TABLE MASTER 1) Nasabah

```
MariaDB [perbankan]> INSERT INTO nasabah (id_nasabah, nama_nasabah, alamat_nasabah) VALUES
-> (11, 'Annisa Nugraheni', 'Jl. Hasanudin 57'),
-> (12, 'Pasha Bhima', 'Jl. Manggis 23'),
-> (13, 'Nadya Ayu', 'Jl. Melati 48'),
-> (14, 'Aldila', 'Jl. Merpati 82'),
-> (15, 'Fatikha', 'Jl. Sutoyo 5'),
-> (16, 'Azzahra Sintaa', 'Jl. Slamet Riyadi 24'),
-> (17, 'Ayu Setia', 'Jl. MT Haryono 21'),
-> (18, 'Butsaina Nur', 'Jl. Pattimura 3'),
-> (19, 'Rias Wahyuni', 'Jl. Mawar 22'),
-> (20, 'Fahrunnisa', 'Jl. Naga 18');
Query OK, 10 rows affected (0.101 sec)
Records: 10  Duplicates: 0  Warnings: 0
```

➤ Check

```
MariaDB [perbankan]> SELECT * FROM nasabah;
```

id_nasabah	nama_nasabah	alamat_nasabah
1	Sutopo	Jl. Jendral Sudirman 12
2	Maryati	Jl. MT Haryono 31
3	Suparman	Jl Hasanudin 81
4	Kartika Padmasari	Jl. Manggis 15
5	Budi Eko Prayogo	Jl. Kantil 30
6	Satria Eka Jaya	Jl. Slamet Riyadi 45
8	Sari Murti	Jl. Pangandaran 11
9	Canka Lokananta	Jl. Tidar 86
10	Budi Murtono	Jl. Merak 22
11	Annisa Nugraheni	Jl. Hasanudin 57
12	Pasha Bhima	Jl. Manggis 23
13	Nadya Ayu	Jl. Melati 48
14	Aldila	Jl. Merpati 82
15	Fatikha	Jl. Sutoyo 5
16	Azzahra Sintaa	Jl. Slamet Riyadi 24
17	Ayu Setia	Jl. MT Haryono 21
18	Butsaina Nur	Jl. Pattimura 3
19	Rias Wahyuni	Jl. Mawar 22
20	Fahrunnisa	Jl. Naga 18

```
19 rows in set (0.001 sec)
```

2)

Cabang_bank

```
MariaDB [perbankan]> INSERT INTO cabang_bank (kode_cabang, nama_cabang, alamat_cabang) VALUES
-> ('BRUA', 'Bank Rut Unit Ambon', 'Jl. Manggis 8'),
-> ('BRUC', 'Bank Rut Unit Cilacap', 'Jl. Melati 76'),
-> ('BRUD', 'Bank Rut Unit Demak', 'Jl. Sutoyo 43'),
-> ('BRUE', 'Bank Rut Unit Enarotali', 'Jl. Mawar 32'),
-> ('BRUG', 'Bank Rut Unit Gorontalo', 'Jl. Naga 17'),
-> ('BRUP', 'Bank Rut Unit Palembang', 'Jl. Pattimura 6'),
-> ('BRUI', 'Bank Rut Unit Indramayu', 'Jl. MT Haryono 20'),
-> ('BRUJ', 'Bank Rut Unit Jakarta', 'Jl. Hasanudin 54'),
-> ('BRUL', 'Bank Rut Unit Lamongan', 'Jl. Kantil 3'),
-> ('BRUT', 'Bank Rut Unit Tangerang', 'Jl. Jendral Sudirman 11');
Query OK, 10 rows affected (0.102 sec)
Records: 10  Duplicates: 0  Warnings: 0
```

➤ Check

```
MariaDB [perbankan]> SELECT * FROM cabang_bank;
```

kode_cabang	nama_cabang	alamat_cabang
BRUA	Bank Rut Unit Ambon	Jl. Manggis 8
BRUB	Bank Rut Unit Boyolali	Jl. Ahmad Yani 45
BRUC	Bank Rut Unit Cilacap	Jl. Melati 76
BRUD	Bank Rut Unit Demak	Jl. Sutoyo 43
BRUE	Bank Rut Unit Enarotali	Jl. Mawar 32
BRUG	Bank Rut Unit Gorontalo	Jl. Naga 17
BRUI	Bank Rut Unit Indramayu	Jl. MT Haryono 20
BRUJ	Bank Rut Unit Jakarta	Jl. Hasanudin 54
BRUK	Bank Rut Unit Klaten	Jl. Suparman 23
BRUL	Bank Rut Unit Lamongan	Jl. Kantil 3
BRUP	Bank Rut Unit Palembang	Jl. Pattimura 6
BRUS	Bank Rut Unit Surakarta	Jl. Slamet Riyadi 18
BRUT	Bank Rut Unit Tangerang	Jl. Jendral Sudirman 11
BRUW	Bank Rut Unit Wonogiri	Jl. Ahmad Yani No.23
BRUY	Bank Rut Unit Yogyakarta	Jl. Anggrek 21

```
15 rows in set (0.000 sec)
```


3)

Rekening

```
MariaDB [perbankan]> INSERT INTO rekening (no_rekening, kode_cabangFK, pin, saldo) VALUES
-> (114, 'BRUA', '1023', 400000),
-> (115, 'BRUB', '1203', 350000),
-> (116, 'BRUC', '2345', 650000),
-> (117, 'BRUD', '3456', 250000),
-> (118, 'BRUE', '4567', 700000),
-> (119, 'BRUG', '5678', 5000000),
-> (120, 'BRUS', '6789', 300000),
-> (121, 'BRUB', '7890', 7000000),
-> (122, 'BRUB', '8901', 0),
-> (123, 'BRUY', '9012', 550000);
Query OK, 10 rows affected (0.088 sec)
Records: 10  Duplicates: 0  Warnings: 0
```

4)

➤ Check

```
MariaDB [perbankan]> SELECT * FROM rekening;
```

no_rekening	kode_cabangFK	pin	saldo
101	BRUS	1111	500000
102	BRUS	2222	350000
103	BRUS	3333	750000
104	BRUM	4444	900000
105	BRUM	5555	2000000
106	BRUS	6666	3000000
107	BRUS	7777	1000000
108	BRUB	8888	5000000
109	BRUB	9999	0
110	BRUY	1234	550000
111	BRUK	4321	150000
112	BRUK	0123	300000
113	BRUY	8888	255000
114	BRUA	1023	400000
115	BRUB	1203	350000
116	BRUC	2345	650000
117	BRUD	3456	250000
118	BRUE	4567	700000
119	BRUG	5678	5000000
120	BRUS	6789	300000
121	BRUB	7890	7000000
122	BRUB	8901	0
123	BRUY	9012	550000

```
23 rows in set (0.000 sec)
```

Nasabah_has_rekening

```
MariaDB [perbankan]> INSERT INTO nasabah_has_rekening(id_nasabahFK, no_rekeningFK) VALUES
-> (11, 120),
-> (12, 104),
-> (13, 121),
-> (14, 114),
-> (15, 123),
-> (16, 122),
-> (17, 115),
-> (17, 124),
-> (18, 125),
-> (19, 126);
Query OK, 10 rows affected (0.095 sec)
Records: 10 Duplicates: 0 Warnings: 0
```

5)

➤ Check

```
MariaDB [perbankan]> SELECT * FROM nasabah_has_rekening;
```

id_nasabahFK	no_rekeningFK
1	104
2	103
3	105
3	106
4	101
4	107
5	102
5	107
6	109
7	109
8	111
8	112
9	110
10	108
10	113
11	120
12	104
13	121
14	114
15	123
16	122
17	115
17	124
18	125
19	126

25 rows in set (0.000 sec)

B. TABLE TRANSAKSI

```
MariaDB [perbankan]> INSERT INTO transaksi(no_transaksi, id_nasabahFK, no_rekeningFK, jenis_transaksi, tanggal, jumlah) VALUES
-> (31, 103, 3, 'debit', '2009-12-6', 700000),
-> (32, 126, 2, 'kredit', '2009-12-7', 400000),
-> (33, 114, 4, 'kredit', '2009-12-7', 300000),
-> (34, 102, 3, 'debit', '2009-12-7', 200000),
-> (35, 125, 5, 'debit', '2009-12-8', 1000000),
-> (36, 124, 1, 'kredit', '2009-12-8', 900000),
-> (37, 113, 9, 'debit', '2009-12-9', 150000),
-> (38, 115, 5, 'debit', '2009-12-10', 40000),
-> (39, 122, 3, 'kredit', '2009-12-10', 650000),
-> (40, 108, 4, 'kredit', '2009-12-10', 800000),
-> (41, 123, 2, 'kredit', '2009-12-10', 500000),
-> (42, 112, 1, 'debit', '2009-12-11', 3000000),
-> (43, 121, 4, 'kredit', '2009-12-12', 800000),
-> (44, 101, 3, 'debit', '2009-12-12', 100000),
-> (45, 121, 1, 'kredit', '2009-12-13', 100000),
-> (46, 112, 4, 'kredit', '2009-12-13', 250000),
-> (47, 106, 2, 'debit', '2009-12-13', 50000),
-> (48, 109, 5, 'kredit', '2009-12-14', 2000000),
-> (49, 101, 10, 'debit', '2009-12-14', 2500000),
-> (50, 125, 3, 'debit', '2009-12-15', 700000);
Query OK, 20 rows affected (0.047 sec)
Records: 20 Duplicates: 0 Warnings: 0
```

➤ Check

```
MariaDB [perbankan]> SELECT * FROM transaksi;
```

no_transaksi	id_nasabahFK	no_rekeningFK	jenis_transaksi	tanggal	jumlah
1	105	3	debit	2009-11-10 00:00:00	50000
2	103	2	debit	2009-11-10 00:00:00	40000
3	101	4	kredit	2009-11-12 00:00:00	20000
4	106	3	debit	2009-11-13 00:00:00	50000
5	107	5	kredit	2009-11-13 00:00:00	30000
6	104	1	kredit	2009-11-15 00:00:00	200000
7	110	9	kredit	2009-11-15 00:00:00	150000
8	102	5	debit	2009-11-16 00:00:00	20000
9	105	3	kredit	2009-11-18 00:00:00	50000
10	107	4	debit	2009-11-19 00:00:00	100000
11	103	2	debit	2009-11-19 00:00:00	100000
12	104	1	debit	2009-11-19 00:00:00	50000
13	107	4	kredit	2009-11-20 00:00:00	200000
14	105	3	debit	2009-11-21 00:00:00	40000
15	104	1	kredit	2009-11-22 00:00:00	100000
16	101	4	kredit	2009-11-22 00:00:00	20000
17	103	2	debit	2009-11-22 00:00:00	50000
18	102	5	debit	2009-11-25 00:00:00	50000
19	108	10	debit	2009-11-26 00:00:00	100000
20	106	3	kredit	2009-11-27 00:00:00	50000
21	103	2	kredit	2009-11-28 00:00:00	200000
22	105	3	kredit	2009-11-28 00:00:00	100000
23	102	5	debit	2009-11-30 00:00:00	20000
24	104	1	debit	2009-12-01 00:00:00	50000
25	103	2	debit	2009-12-02 00:00:00	40000
26	101	4	debit	2009-12-04 00:00:00	50000
27	103	2	kredit	2009-12-05 00:00:00	100000
28	102	5	kredeit	2009-12-05 00:00:00	200000
29	109	7	debit	2009-12-05 00:00:00	100000
30	110	9	debit	2009-12-06 00:00:00	20000
31	103	3	debit	2009-12-06 00:00:00	70000
32	126	2	kredit	2009-12-07 00:00:00	400000
33	114	4	kredit	2009-12-07 00:00:00	30000
34	102	3	debit	2009-12-07 00:00:00	200000
35	125	5	debit	2009-12-08 00:00:00	1000000
36	124	1	kredit	2009-12-08 00:00:00	900000
37	113	9	debit	2009-12-09 00:00:00	150000
38	115	5	debit	2009-12-10 00:00:00	40000
39	122	3	kredit	2009-12-10 00:00:00	650000
40	108	4	kredit	2009-12-10 00:00:00	800000
41	123	2	kredit	2009-12-10 00:00:00	500000
42	112	1	debit	2009-12-11 00:00:00	3000000
43	121	4	kredit	2009-12-12 00:00:00	800000
44	101	3	debit	2009-12-12 00:00:00	100000
45	121	1	kredit	2009-12-13 00:00:00	100000
46	112	4	kredit	2009-12-13 00:00:00	250000
47	106	2	debit	2009-12-13 00:00:00	50000
48	109	5	kredit	2009-12-14 00:00:00	2000000
49	101	10	debit	2009-12-14 00:00:00	2500000
50	125	3	debit	2009-12-15 00:00:00	700000

50 rows in set (0.000 sec)