


Exercise: Transactions / Basics

1. With Activated Autocommit

Log in to MySQL and connect to a database where you have write privileges.
Do not change any settings. (This means, that AUTOCOMMIT is switched on, by default).

a)

Insert a new tuple into a table X.
Enter `SELECT * FROM X;` to verify the tuple was inserted.
Type `"ROLLBACK"` to the MySQL prompt.
Enter `SELECT * FROM X;` again to see whether the insertion was rolled back.
Why is the tuple still there? 

b)

Type `START TRANSACTION` to the MySQL prompt.
Insert a new tuple into a table X.
Enter `SELECT * FROM X;` to verify the tuple was inserted.
Type `"ROLLBACK"` to the MySQL prompt.
Enter `SELECT * FROM X;` again to see whether the insertion was rolled back.
Why is the tuple no longer there now?


2. With Autocommit switched off.

Type to the MySQL prompt:
`SET AUTOCOMMIT = 0;`

a)

Insert a new tuple into a table X.
Enter `SELECT * FROM X;` to verify the tuple was inserted.
Type `"ROLLBACK"` to the MySQL prompt.
Enter `SELECT * FROM X;` again to see whether the insertion was rolled back.
Why is the tuple no longer there? Compare this to situations 1a) and 1b).

b)

Insert a new tuple into a table X.
Enter `SELECT * FROM X;` to verify the tuple was inserted.
Type `"COMMIT"` to the MySQL prompt.
Enter `SELECT * FROM X;` again to verify that the tuple is still there.
Type `"ROLLBACK"` to the MySQL prompt.
Why is the tuple still there? 

c)

Repeat 2a) and 2b) with a preceding `START TRANSACTION` command.

3. Transactions consisting of several SQL statements

a)

Switch Autocommit off (=0) in case it is not switched off.

Enter several SQL statements that perform changes in the data.
After several statements, type COMMIT.

Verify that all changes are still in effect.

Enter several more SQL statements that perform changes in the data.
After several statements, type ROLLBACK.

Verify that all changes have been undone.

b)

Switch Autocommit on (= 1) in case it is not switched off.

Enter START TRANSACTION to the MySQL prompt.

Enter several SQL statements that perform changes in the data.
After several statements, type COMMIT.

Verify that all changes are still in effect.

Enter START TRANSACTION to the MySQL prompt.

Enter several more SQL statements that perform changes in the data.
After several statements, type ROLLBACK.

Verify that all changes have been undone.