# 22. Transactions

The transaction in SQL is a set of operations that need to be a success in a SQL statement. If the transaction is a success then all the set of operations will be a success. Otherwise, all will fail. Transactions are not successful partially.

Transaction Handling in the SQL Code
Following SQL commands control transactions in SQL Server.
- Ø BEGIN TRANSACTION
- Ø COMMIT TRANSACTION
- Ø ROLLBACK TRANSACTION

BEGIN TRANSACTION
BEGIN TRANSACTIONS command is used to mark the start of transactions.
COMMIT TRANSACTION
COMMIT TRANSACTIONS command is used to finish the transaction successfully.
ROLLBACK TRANSACTION
ROLLBACK TRANSACTIONS command is used to revert transactions due to an error.
Below is an example that will succeed in all transactions. Value 1, 2 will be inserted to the table.

**Script 1:**

```
BEGIN TRANSACTION;

BEGIN TRY
        INSERT INTO Items VALUES(1);
        INSERT INTO Items VALUES(2);
        COMMIT TRANSACTION;
        PRINT('Success');
END TRY

BEGIN CATCH
        ROLLBACK TRANSACTION;
        PRINT('Failed');
END CATCH
```

Below is an example that fails a transaction. None of the items will be inserted to the table.

**Script 2:**

```sql
BEGIN TRANSACTION;

BEGIN TRY
        INSERT INTO Items VALUES(1);
        INSERT INTO Items VALUES(1);
        COMMIT TRANSACTION;
        PRINT('Success');
END TRY

BEGIN CATCH
        ROLLBACK TRANSACTION;
        PRINT('Failed');
END CATCH
```