Overview of WHILE statement

The WHILE statement is a control-flow statement that allows you to execute a statement block repeatedly as long as a specified condition is TRUE.

The following illustrates the syntax of the WHILE statement:

WHILE Boolean\_expression

{ sql\_statement | statement\_block}

Code language: SQL (Structured Query Language) (sql)

In this syntax:

First, the Boolean\_expression is an expression that evaluates to TRUE or FALSE.

Second, sql\_statement | statement\_block is any Transact-SQL statement or a set of Transact-SQL statements. A statement block is defined using the [BEGIN...END](https://www.sqlservertutorial.net/sql-server-stored-procedures/sql-server-begin-end/) statement.

If the Boolean\_expression evaluates to FALSE when entering the loop, no statement inside the WHILE loop will be executed.

Inside the WHILE loop, you must change some [variables](https://www.sqlservertutorial.net/sql-server-stored-procedures/variables/) to make the Boolean\_expression returns FALSE at some points. Otherwise, you will have an indefinite loop.

Note that if the Boolean\_expression contains a [SELECT](https://www.sqlservertutorial.net/sql-server-basics/sql-server-select/) statement, it must be enclosed in parentheses.

To exit the current iteration of the loop immediately, you use the [BREAK](https://www.sqlservertutorial.net/sql-server-stored-procedures/sql-server-break/) statement. To skip the current iteration of the loop and start the new one, you use the [CONTINUE](https://www.sqlservertutorial.net/sql-server-stored-procedures/sql-server-continue/) statement.

SQL Server WHILE example

Let’s take an example of using the SQL Server WHILE statement to understand it better.

The following example illustrates how to use the WHILE statement to print out numbers from 1 to 5:

DECLARE @counter INT = 1;

WHILE @counter <= 5

BEGIN

PRINT @counter;

SET @counter = @counter + 1;

END

Code language: SQL (Structured Query Language) (sql)

Output:

1

2

3

4

5

In this example:

* First, we declared the @counter [variable](https://www.sqlservertutorial.net/sql-server-stored-procedures/variables/) and set its value to one.
* Then, in the condition of the WHILE statement, we checked if the @counteris less than or equal to five. If it was not, we printed out the @counter and increased its value by one. After five iterations, the @counter is 6 which caused the condition of the WHILE clause evaluates to FALSE, the loop stopped.