There are several things to note regarding functions.

1. The inputs to a function are called parameters.  Not all function have parameters, and some functions have more than one.
2. Parameters are enclosed in parenthesis.
3. We use functions in the SELECT clause as well as WHERE,HAVING filter condition. A function can be used anywhere in a SELECT statement that you can use an expression.
4. Function are reserved words. I would avoid using them as column or table names.  If you do, then expect to qualify your names with brackets [].

Most folk’s first impression is that functions are used to return numeric values.

Sure, they are used for these, but functions can return many other [data types](https://www.essentialsql.com/commonly-used-sql-server-data-types/) as well.

As you’ll see, functions are used to manipulate DATETIME, VARCHAR, and REAL types.

In SQL server the built-in functions return one value.  These are called [scalar](https://en.wikipedia.org/wiki/Variable_(computer_science)) functions, and are used wherever expressions are allowed.

Scalar is just a fancy work for “single value.” You will also learn about functions that can return table rows, these functions are called table value functions

**Function Categories**

There are over a hundred built-in functions in SQL server.  To understand their breadth of application, I would recommend visiting the [Built-In Functions (Transact SQL)](https://msdn.microsoft.com/en-us/library/ms174318.aspx) page on the MDSN site.  You find the functions are categorized into major categories.  The categories we’ll cover next are:

* **Conversion Functions** – [Convert data with CAST and CONVERT](https://www.essentialsql.com/datatype-conversion-in-sql-using-cast-and-convert/)
* **Logical Functions** – [execute one expression versus another depending on the outcome of a logical comparison](https://www.essentialsql.com/introduction-to-sql-servers-built-in-logical-functions/).
* **Math Functions** – [perform advanced calculations and round numbers](https://www.essentialsql.com/introduction-to-sql-servers-mathematical-functions/).
* **String Functions** –[change text values to all upper case, or remove the trailing spaces from values.](https://www.essentialsql.com/introduction-to-sql-servers-common-string-functions/)
* **Date Functions** – [add days or months to a date. Calculate the day of week from the date.](https://www.essentialsql.com/introduction-to-sql-servers-date-functions/)

Types of function can be found here:

<https://docs.microsoft.com/en-us/sql/t-sql/functions/concat-transact-sql?view=sql-server-2017>