Pi Yen Hsu (Lucas)
Date: 3/1/2023
IT FDN 130 foundations
Assignment 7
https://github.com/hsup3/DBFoundations-Module07.git

A udf is a code module that can compute a result or extract and return a subset of rows from a data source.

1. ***Explain when you would use a SQL UDF.***
   User Defined FUnctions (UDF) provides a layer of abstraction to simplify query construction - making SQL queries more readable and modularized. It's a custom function that can be saved and repeated. In addition, SQL UDFs can be created as either temporary or permanent functions, be reused across multiple queries

2. ***Explain the differences between Scalar, Inline, and Multi-Statement Functions.***
   - **Scalar functions** return a single value as a result of actions given by a parameter. A Scalar user-defined function returns one of the scalar (int, char, varchar etc) data types We usually use the Scalar function to calculate the non-complex calculations.

   - **Inline functions** return a single set of rows, whose value is derived from a single SELECT statement. Since the return value is derived from the SELECT statement, there is no BEGIN or END block needed in the CREATE FUNCTION statement.
     In this case, we don't need to specify the table variable name, because the structure of the returned value is generated from the columns that compose the SELECT statement.

   - **Multi-Statement functions** return a table variable as a result of actions given by parameter.
     A Multi-Statement Table-Valued user-defined function returns multiple rows in a table format. It can have one or more than one T-SQL statement. Within the create function command you must define the table structure that is being returned. After creating this type of user-defined function, we can use it in the FROM clause of a T-SQL command unlike the behavior found when using a stored procedure which can also return record sets.