--SQL STRING FUNCTIONS

--What is an SQL function?

--SQL functions are primarily used to manipulate and/or format the data within a column.

--Examples of functions:

USE Joins

GO

--Create table for testing

CREATE TABLE FUNCTIONS

(FuncID int IDENTITY (1, 1) PRIMARY KEY NOT NULL,

Fname varchar (50) NULL,

Lname varchar (50) NULL,

DOB datetime NULL,

Phone varchar (30) NULL,

Zipcode varchar (10) Null,

HireDate datetime NULL,

Salary decimal (18, 4) NULL,

Sports varchar (200) NULL)

SELECT \* FROM FUNCTIONS

--INSERT RECORDS INTO TABLE

INSERT INTO FUNCTIONS

VALUES

(' BOB ',' SMITH ','02/01/80','NULL','92618','06/18/11',71000.251,'the sport i like is tennis'), --<< Notice spaces being added both in front and back of fname and lname

(' SAM ',' JONES ','04/11/87','555-555-6666','92518','07/22/10',90000.524,'the SPORT i like is running'),

(' BRAD ', ‘MICHELS ','02/01/80 ',' 555-555-1212','32618','06/18/12',30000.554,'the sport i like is golf'),

(' SUE ',' DARBY ',' 07/01/68','555-666-1212 ','92677','08/13/08', 32000.000,'the sport i like is football'),

(' frank ','book ','12/10/86','NULL','92225','09/18/08',1000000.587 ,'the sport i LIKE is cycling'),

(' REED','READ ','02/01/80','555-555-2222','cs ad 35','06/18/11',712.621,'the sport i like is cycling')

SELECT \* FROM FUNCTIONS

--EXAMPLES OF STRING FUNCTIONS

--LEN(EXPRESSION) --<< provides the number of characters in a string (INCLUDING THE FRONT PADDING!)

SELECT FNAME,LEN(FNAME)AS FIRSTNAME

FROM FUNCTIONS

SELECT Lname, LEN(Lname)AS LASTNAME --<< provides the number of characters in a string (NOT INCLUDING THE TRAILING PADDING!)

FROM FUNCTIONS

--LTRIM(EXPRESSION): removes leading spaces

SELECT FNAME,LTRIM(FNAME)AS FIRSTNAME

FROM FUNCTIONS

--RTRIM(EXPRESSION): removes trailing spaces

SELECT FNAME,RTRIM(FNAME)AS RFIRSTNAME,RTRIM(FNAME) + 'X' AS RFIRSTNAME

FROM FUNCTIONS

--RTRIM(LTRIM(FNAME)) - removes leading and trailing spaces

SELECT FNAME,RTRIM(LTRIM(FNAME))AS FIRSTNAME

FROM FUNCTIONS

--LEFT(EXPRESSION,LENGTH): counts the left most number of characters as specified

SELECT FNAME,LEFT(FNAME,2) AS LEFTNAME --<< notice that it counts the leading spaces first!

FROM FUNCTIONS

--RIGHT(EXPRESSION,LENGTH): counts the right most number of characters as specified

SELECT FNAME,RIGHT(FNAME,3)AS RIGHTNAME --<< notice that it does NOT counts the trailing first!

FROM FUNCTIONS

--CONCAT(EXPRESSION,EXPRESSION): returns concatenated string

SELECT FNAME,LNAME,CONCAT(FNAME,LNAME)AS CONCATNAME --joins first name and last name together

FROM FUNCTIONS

--Result as above, but with right and left trimming of spaces with nested ltrim and rtrim

SELECT FNAME, LNAME, LTRIM ((RTRIM (FNAME))) + ' ' + LTRIM ((RTRIM (LNAME))) AS CONCATNAME --joins first name and last name together

FROM FUNCTIONS

--REVERSE (EXPRESSION): reverses the characters in a string

SELECT SPORTS, REVERSE (SPORTS) AS REVERSESPORTS

FROM FUNCTIONS

--REPLACE (EXPRESSION,'FIND STRING','REPLACE STRING'): replaces occurrences of a specified string

SELECT SPORTS FROM FUNCTIONS

SELECT SPORTS, REPLACE (SPORTS,'TENNIS', 'BOWLING') AS REPLACED --<<replaces a selected text

FROM FUNCTIONS

--SUBSTRING (EXPRESSION, START, TOTAL CHARACTERS): returns the substring as specified

SELECT SPORTS, UPPER (SUBSTRING (SPORTS, 5, 6)) AS [SUBSTRING] --<< select a word from a string (5 indicates, count from left 5 characters, and then give the next 6 characters)

FROM FUNCTIONS

--UPPER (EXPRESSION): converts string to upper case

SELECT SPORTS, UPPER (SPORTS) AS UPPERSPORTS

FROM FUNCTIONS

--LOWER (EXPRESSION): converts string to lower case

SELECT SPORTS, LOWER (SPORTS) AS LOWERSPORTS

FROM FUNCTIONS