

# Creating Programmatic SQL Database Objects

## Lab 3 – Creating User Defined Functions

### Overview

The existing Marketing application includes some functions. Your manager has requested your assistance in creating a new function for formatting phone numbers. She also needs you to modify an existing function to improve its usability.

Before starting this lab, you should view **Module 3 – Creating User Defined Functions** in the course *Creating Programmatic SQL Database Objects*. Then, if you have not already done so, follow the instructions in the **Getting Started** document for this course to set up the lab environment.

If you find some of the challenges difficult, don't worry – you can find suggested solutions for all of the challenges in the **Lab Solution** folder for this module.

### What You'll Need

To complete the labs, you will need the following:

- An Azure SQL Database instance with the AdventureWorksLT sample database. Review the Getting Started document for information about how to provision this.
- The lab files for this course

## Challenge 1: Format Phone Numbers

Your manager has noticed that different users tend to format phone numbers that are entered into the database in different ways. She has asked you to create a function that will be used to format the phone numbers. You need to design, implement, and test the function.

### Review the Design Requirements

Review the following design requirements for your stored procedure:

**Function Name:** FormatPhoneNumber (created in the dbo schema)

**Input Parameter:** PhoneNumberToFormat nvarchar(16)

**Return Value:** nvarchar(16)

#### Rules to apply in formatting:

- Any phone number beginning with the international dialing code (ie: a + sign), should be left unformatted.
- Phone numbers that contain 10 digits should be formatted as: (XXX) XXX-XXXX
- Phone numbers that contain 8 digits should be formatted as: XXXX-XXXX
- Phone numbers that contain 7 digits should be formatted as: XXX-XXXX
- Phone numbers that contain 6 digits should be formatted as: XXX-XXX
- All other characters should be stripped out
- Phone numbers that have different numbers of digits should have only the digits returned ie: (9234) 2345-2342 should be returned as 923423452342.

### Design and Create the Function

Design and create the function for reformatting phone numbers.

### Test the Function

Execute the FormatPhoneNumber function to ensure that the function correctly formats the phone number.