Functions

For this exercise, you will create separate programs for each exercise.

Exercise 1: Calculate Tax

Write a simple function that takes in two floats: **`price`** and **`tax`**. It returns the price plus tax, also a float.

$$pricePlusTax = price + (price \times taxRate)$$

In main, call this function and then output the result.

Exercise 2: Multiple functions

Write a program that uses multiple functions to split up functionality.

The main menu will give the user the options: (1) Translate from English, (2) Translate to English, and (3) Exit.

Functions:

TranslateFromEnglish, return type of **void**, no **parameters**.

In this function, have the user enter a word. Then, write an if statement to check that word, and display a translation if available. Otherwise, display a message like “Word not in dictionary.”

TranslateToEnglish, return type of **void**, no **parameters**.

This function is the reverse, the user enters a word in the target language, then it is checked via an if statement, and the English translation is displayed. If the word is not found, display “Word not in dictionary.”

If you know other languages or want to use an online dictionary to find some words, feel free. Otherwise, here are some samples:

English	Esperanto
Cat	Kato
Dog	Hundo
Moose	Alko
Frog	Rano

Exercise 3: Math, function overloading, pass-by-reference

You will overload a function named **`Multiply`**. There will be three versions:

1. Takes the input of two integers:
   `number1`, **`number2`**
   This function will multiply these numbers and return the product.

2. Takes the input of two floats:
   `number1`, **`number2`**
   This function will multiply these numbers and return the product.

3. Takes the input of four integers passed by value:
   `numerator1`, **`denominator1`**, **`numerator2`**, and **`denominator2`**
   and two integers passed by reference:
   `numProduct, denomProduct`
   This function will calculate the product of the fraction.

$$(\frac{a}{b})(\frac{c}{d})=(\frac{ac}{bd})$$

In main, call each of these functions and output the result.