CSCI 1250 - Homework 6

Methods

Introduction

This lab will reinforce topics covered in the Methods lectures. Create a program called `Homework6.` At the top of the `Program.cs` file, you will do the method calls of the 4 methods you are asked to create below. The creation of the 4 methods below, should be done in the same `Program.cs,` below the method calls.

Method 1: Show Character

Write a method named `ShowCharacter.` This method should accept two arguments: a reference to a `string` object, and an `integer.` The `integer` argument is a character position within the `string,` with the first character being 1. When the method executes, it should display the character at that position. (The position is a human position and not a computer science position.)

Example:

```
ShowCharacter("New York", 2);
//this would display the letter e
```

Method 2: Retail Price

Write a method that asks the user to enter an item's wholesale cost and its markup percentage. It should then display the item's retail price. For example:

- If an item's wholesale cost is `5.00` and its markup percentage is `100` percent, then the item's retail price is `10.00.`
- If an item's wholesale cost is `5.00` and its markup percentage is `50` percent, then the item's retail price is `7.50.`

The method is named `CalculateRetail` that receives the wholesale cost and the markup percentage as arguments and returns the retail price of that item.

Method 3: Temperature Table

The formula for converting a temperature from Fahrenheit to Celsius is listed below:

C = 5/9 (F - 32)

F is the Fahrenheit temperature and **C** is the Celsius temperature. Write a method named `Celsius` that accepts a Fahrenheit temperature as an argument. The method should return the temperature, converted to Celsius.

Demonstrate the method by calling it in a loop that displays a table of the Fahrenheit temperatures 80 through 100 and their celsius equivalents.

Method 4: Prime Numbers

A prime number is a number that is evenly divisible only by itself and 1. For example, the number 5 is prime because it can be evenly divided only by 1 and 5. The number 6, however, is not prime because it can be divided evenly by 1, 2, 3, and 6.

Write a method named `IsPrime`, which takes an integer as an argument, and returns `true` if the argument is a prime number, or `false` otherwise. Demonstrate the method in a complete program.

Submission

Be sure to call all your methods. Run the program and screen shot all methods working as instructed. Upload your code and your screenshots to the GitHub classroom repository. Submit your repositories URL into the D2L dropbox by the specified due date.