Programming Assignment № 3

Description

In this assignment you will create a tip calculator.

The user will check a series of checkboxes describing the service they received and the user will enter the cost of the meal. You will then add a certain amount of tip per checkbox (in this case 5% for each checkbox checked), and display the total percentage tip, the dollar amount of the tip and the final total dollar amount (tip + original price) to the user when they click to run the calculator.

Required Components

These are all required components in your program. Please note this is not a complete listing of everything your program will need to operate, simply things that are being specified as required for full credit.

Figure 1: Finished Application

If a name, control type or data type is specified here, it is required you implement it with that name, control type, data type, etc in your application. If it is not specified, then it is left to you to either determine the proper type or decide what will work best for you.

- Your form should be named *frmDescriptiveTips*

- You will need 5 checkbox controls:

  - "Seated quickly. (5%)"

  - "Drinks kept full. (5%)"

  - "Server was friendly. (5%)"

  - "Food served promptly. (5%)"

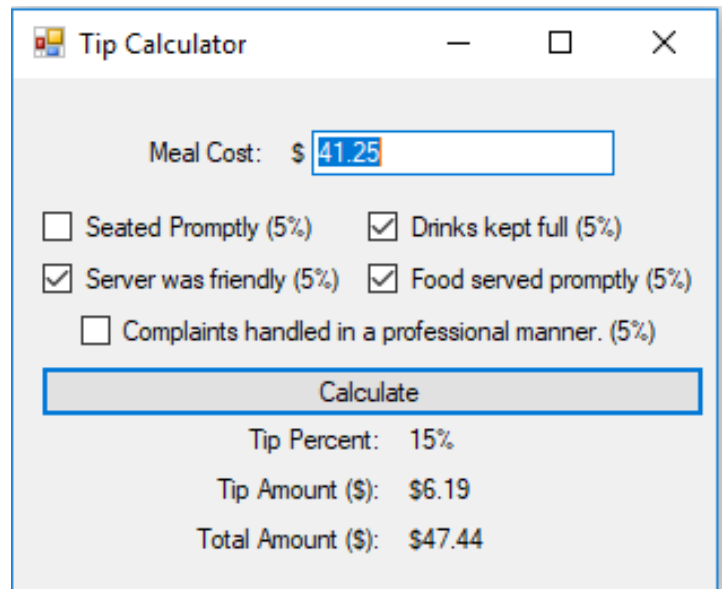 - "Complaints handled in a professional manner. (5%)"

- You need 1 input control that can take a *double* to represent the cost of the meal. You must verify that the input from the user is a *double* using TryParse.

- You will need 3 output controls. One for the total percent tip, one for the total dollar amount of the tip, and one for the total meal cost (tip + original meal cost).

- You must have an element on the form that can be clicked to run the calculator

- Any *double* outputs should be displayed out to 2 places and formatted as a percentage, currency, etc.

WOW Factor Ideas

The WOW Factor is worth 5% of the grade for all assignments. Below are simply some possible ideas, you can choose to do other things or even look ahead and implement a feature that requires next weeks material.

The WOW Factor is your chance to explore the material on your own and discover new things in the material, experiment with something new, utilize new events or control types, etc.

The WOW Factor should reflect a challenge for the current section of the course. In the beginning of the course these will be simple, but as you progress through the class they should grow progressively more ambitious if you want to continue to get the full 5%

Your WOW Factor must be described in your comment header in order to get credit for it and you cannot negate or eliminate required functionality or components when building your WOW Factor.

- Display the current tip percentage as the user toggles check boxes.

- Add a checkbox to round the tip to the nearest whole dollar. (Hint: see Math.Round() function)

- Let the user provide a "tip minimum" and "tip maximum" and make sure the tip falls within those user supplied values.

Sample Inputs and Outputs

Meal Cost	Seated quickly.	Drinks full.	Server friendly.	Food served promptly.	Complaints handled...	Tip %	Tip $	Total $
$3.25	T	T	F	F	F	10%	$0.33	$3.58
$13.45	F	T	T	F	T	15%	$2.02	$15.47
$45.26	F	T	F	F	F	5%	$2.26	$47.52
$55.48	T	T	F	T	T	20%	$11.10	$66.58
$119.45	T	T	T	T	T	25%	$29.86	$149.31
$31.11	F	F	F	F	F	0%	$0.00	$31.11

Grading Rubric

This is the grading rubric. This defines how much each portion of the program is worth.

- Program compiles without errors. - 10%

- Code follows the proper style and naming conventions. - 10%

- Program has 5 checkbox controls and 1 input controls that accepts a double. 5%

- Program has 3 output controls (one for each of tip percent, tip dollar amount and total dollar amount). 5%

- Program has 1 control to trigger the calculator. 5%

- Accurately calculates and outputs the tip percent for the user provided inputs. 20%

- Accurately calculates and outputs the tip dollar amount for the user provided inputs. 20%

- Accurately calculates and outputs the total dollar amount length for the user provided inputs. 20%

- WOW Factor. 5%