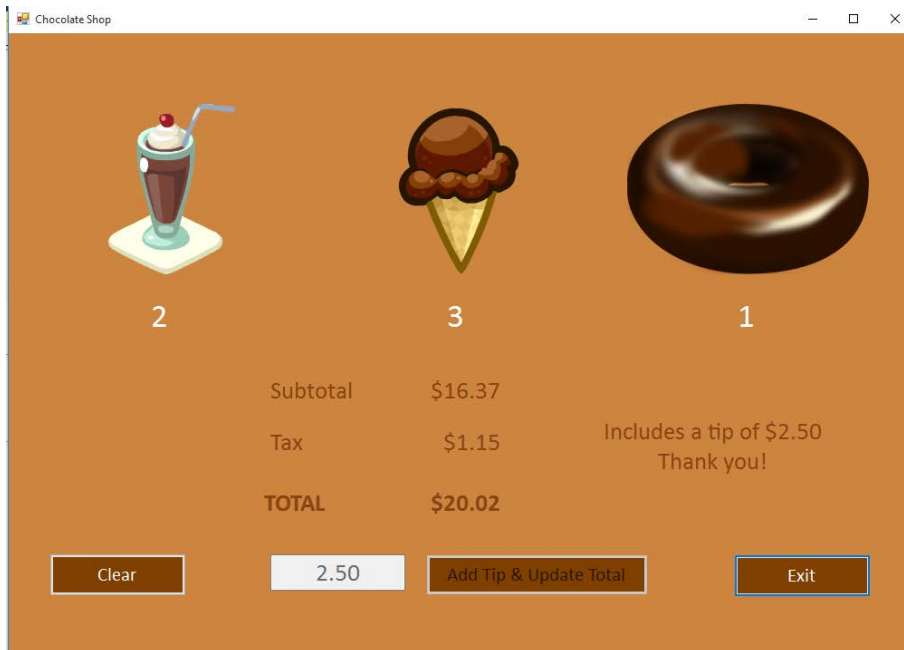
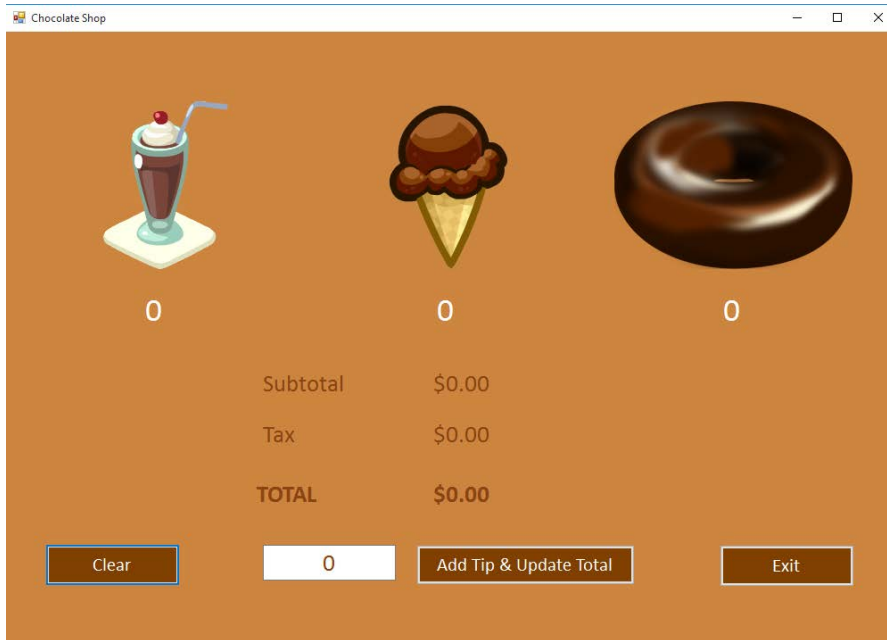


Project 3 – Restaurant or Store



Description

You will create a program that calculates the total amount due for ordering any amount of three items you sell in your restaurant/store (you can sell any school-appropriate items you desire at your restaurant/store).

The form layout is up to you (doesn't have to look exactly like the sample provided by Mr. Bower - be creative and have some fun!) and how users select items is up to you (in Mr. Bower's example, users click on picture boxes). The program **must** update individual item count, subtotal, tax, and total each time an item is added.

There should be a text box to enter a tip (tips are not taxed). When a tip is added, a message box (use any icon you wish, or none) will appear if the value is not numeric. Otherwise, a label will appear indicating that the total includes a tip and also including the value of the tip. Upon successfully adding a tip, the tip button is disabled - users can't return to change their valid tips (they can fix non-numeric tips)!

Objectives

- User interface - form design and layout
- Utilizing TextBox for user input
- String concatenation
- Focus method
- Designing access keys - use of single (&) and double (&&) ampersand
- AcceptButton & CancelButton
- Variables and Constants
- Arithmetic Operators
- Running totals (accumulators) and counters
- Converting data types
- .ToString method
- Formatting strings
- Exception handling with try-catch

Requirements

- Comment your code!!!
- Tax rate is 7%. This is a fixed value- it will not change while the program runs.
- Update the individual item count, subtotal, tax, and total each time an item is added
- You will set the price of your items. These are fixed values – they will not change while the program runs. [Mr. Bower used the values 4.57, 2.09, & 0.96 for the sundae, cone, & doughnut - all sample data is based on these values].
- Create test data based on the items & prices you are using.
 - On Canvas, Assignment 3.14- Required Test Data will provide you with steps to follow to create the test data
 - You should create your test before you write much code (you can design your form before developing your test data).
 - You will also submit this test data on Canvas.
 - If you change your items or your prices after you submit your original test data, that's OK, but you must re-submit new test data on Canvas that matches the items and prices (this helps both you and Mr. Bower)
- Tip label includes value of tip as well as confirmation that the tip has been added. The tip label only displays if there is a tip.
- Tips are not taxed.
- Do not worry about negative-valued tips - we will learn how to deal with issues like that in the next chapter.
- Upon clicking the button to add a tip, that button is disabled.
- The tax rate and three items costs are fixed values - they should be declared as constants.
- Subtotal, tax, and total must be in a currency format.
- Handle the exception if a numeric value is not entered for a tip.
- CLEAR is the form's AcceptButton and EXIT is the form's CancelButton
- Tab order: CLEAR button, tip text box, TIP button, and EXIT button (or some logical order based on how you arrange your form, though the TIP button should be the next tab stop after the tip text box)
- Include keyboard access to CLEAR, TIP, and EXIT buttons
- Type and modify the following at the top of the code:

```
'Your Name  
'Date  
'Assignment Name (Project 3 - Store, for example)  
'Computer Programming I - Bower (or CS 11400 - Bower if you want IPFW class)  
'This program will... (describe the program)
```

...and beyond!

You can earn up to five bonus points by fulfilling and going beyond these requirements (giving your project something(s) extra!)

Sample Data

The screenshot shows a window titled "Chocolate Shop" with a brown background. It features three items for sale: a milkshake with a cherry on top (labeled with the number 6), a chocolate ice cream cone (labeled with the number 4), and a chocolate donut (labeled with the number 7). Below the items, the application displays the following pricing information:

Subtotal	\$42.50
Tax	\$2.98
TOTAL	\$45.48

At the bottom of the window, there are four interactive elements: a "Clear" button, a text input field containing the number "0", an "Add Tip & Update Total" button, and an "Exit" button.

Chocolate Shop

Tip Entry Error

! Please enter a non-negative numeric value for the tip

OK

3

2

3




Subtotal \$20.77

Tax \$1.45

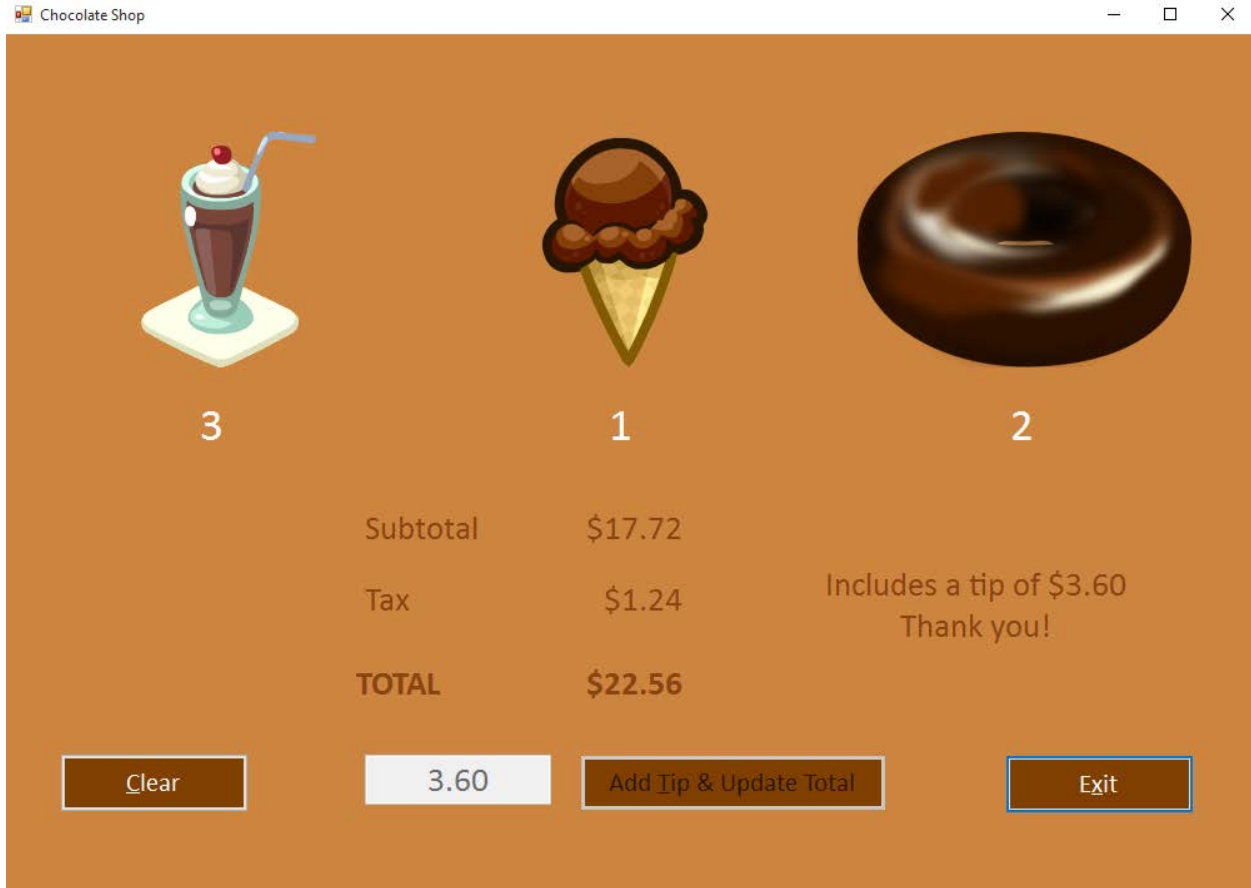
TOTAL \$22.22

Clear W Add Tip & Update Total Exit

Chocolate Shop

		
5	5	5
Subtotal		\$38.10
Tax		\$2.67
TOTAL		\$40.77

Clear 0 Add Tip & Update Total Exit



Grading

Form design / Control names	8
Runs properly	8
Comments/documentation included	5
Accurate results (includes formatting)	10
Variable & Constant names & data types	5
Exception handling (catches unacceptable input)	4
Add tip & update total button	2
Clear/Reset button	3
Exit button click handler	1
Run-time communication	4
Accurate test data submitted	2
TOTAL	52