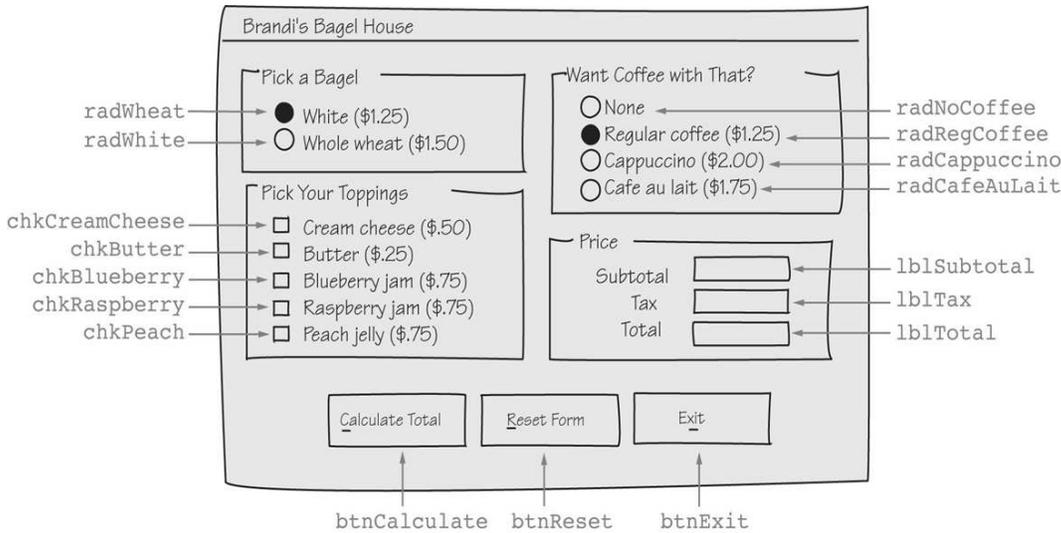
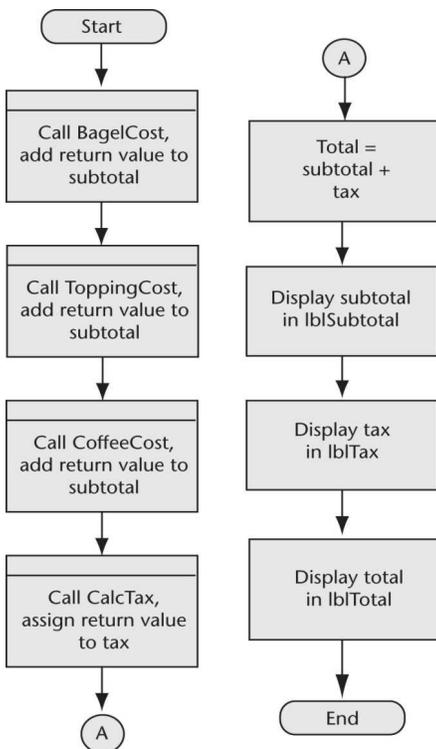


**Part A: Implementing Procedures and Functions:** You and your lab partner will be working through tutorial 6-7 in the textbook (p. 391). You can refer to the textbook for detail directions, but you might be able to get by with the following outline. Your task is to write a simple application to allow the user to enter their choice of bagel, toppings, and drink with the output being the calculated subtotal, tax, and total price. The application should look like the figure.



- 1) Copy the “starter” code with the VB form already laid out as above from P:\Math-CS\810-030\common\Tutorial\_6-7\_Starter to the **Desktop**.
- 2) Open this project in VB.
- 3) User defined procedures/functions allow the programmer to split the problem into smaller, more manageable steps. For example, when the “Calculate Total” button (btnCalculate) is clicked we need to do a sequence of steps:



Here: BagelCost, ToppingCost, CoffeeCost are all calls to user-defined functions that examine their respective group of radio buttons and return the corresponding price.

The pseudocode for the BagelCost function is as follows:

```

If radWhite Is Selected Then
    cost of bagel = 1.25
Else
    cost of bagel = 1.50
End If
Return cost of bagel
    
```

You are to complete the VB application by writing the code to implement the procedures and functions. The code is attached, but don't just type it. Instead, think about the code and try to write as much code as possible on your own.

**At the end of class, you should copy the application from the Desktop to your P: drive folder and/or to a USB flash drives.**

# Lecture 15 In-class Lab

Name: \_\_\_\_\_

Public Class Form1

Inherits System.Windows.Forms.Form

' This application calculates the total order for a bagel and coffee  
' at Brandi's Bagel house. The application uses several functions  
' to calculate the total cost.

Const decTAX\_RATE As Decimal = 0.06D ' Sales tax rate

Private Sub btnCalculate\_Click(ByVal sender As System.Object, \_  
ByVal e As System.EventArgs) Handles btnCalculate.Click  
' This procedure calculates the total of an order.

Dim decSubtotal As Decimal ' Holds the order subtotal  
Dim decTax As Decimal ' Holds the sales tax  
Dim decTotal As Decimal ' Holds the order total

decSubtotal = BagelCost() + ToppingCost() + CoffeeCost()  
decTax = CalcTax(decSubtotal)  
decTotal = decSubtotal + decTax

lblSubtotal.Text = decSubtotal.ToString("c")  
lblTax.Text = decTax.ToString("c")  
lblTotal.Text = decTotal.ToString("c")

End Sub

Private Sub btnReset\_Click(ByVal sender As System.Object, \_  
ByVal e As System.EventArgs) Handles btnReset.Click  
' This procedure resets the controls to default values.

ResetBagels()  
ResetToppings()  
ResetCoffee()  
ResetPrice()

End Sub

Private Sub btnExit\_Click(ByVal sender As System.Object, \_  
ByVal e As System.EventArgs) Handles btnExit.Click

' End the application  
Me.Close()

End Sub

Function BagelCost() As Decimal

' This function returns the cost of the bagel.

If radWhite.Checked = True Then  
Return 1.25D  
Else  
Return 1.5D  
End If

End Function

# Lecture 15 In-class Lab

Name: \_\_\_\_\_

Function ToppingCost() As Decimal

' This function returns the cost of the toppings.

Dim decCostOfTopping As Decimal = 0D

If chkCreamCheese.Checked = True Then  
    decCostOfTopping += 0.5D

End If

If chkButter.Checked = True Then  
    decCostOfTopping += 0.25D

End If

If chkBlueberry.Checked = True Then  
    decCostOfTopping += 0.75D

End If

If chkRaspberry.Checked = True Then  
    decCostOfTopping += 0.75D

End If

If chkPeach.Checked = True Then  
    decCostOfTopping += 0.75D

End If

Return decCostOfTopping

End Function

Function CoffeeCost() As Decimal

' This function returns the cost of the  
' selected coffee.

If radNoCoffee.Checked Then  
    Return 0

ElseIf radRegCoffee.Checked = True Then  
    Return 1.25D

ElseIf radCappuccino.Checked = True Then  
    Return 2

ElseIf radCafeAuLait.Checked = True Then  
    Return 1.75D

End If

End Function

Function CalcTax(ByVal decAmount As Decimal) As Decimal

' This function receives the sale amount. It  
' calculates and returns the sales tax, based  
' on the sale amount.

Return decAmount \* decTAX\_RATE

End Function

Private Sub ResetBagels()

' This procedure resets the bagel selection.

radWhite.Checked = True

End Sub

# Lecture 15 In-class Lab

Name: \_\_\_\_\_

```
Sub ResetToppings()
```

```
    ' This procedure resets the topping selection.
```

```
    chkCreamCheese.Checked = False
```

```
    chkButter.Checked = False
```

```
    chkBlueberry.Checked = False
```

```
    chkRaspberry.Checked = False
```

```
    chkPeach.Checked = False
```

```
End Sub
```

```
Sub ResetCoffee()
```

```
    ' This procedure resets the coffee selection.
```

```
    radRegCoffee.Checked = True
```

```
End Sub
```

```
Sub ResetPrice()
```

```
    ' This procedure resets the price.
```

```
    lblSubtotal.Text = String.Empty
```

```
    lblTax.Text = String.Empty
```

```
    lblTotal.Text = String.Empty
```

```
End Sub
```

```
End Class
```