Case One The Downtown Department Store 19 February 2015

Developers



Ricky Genz

Main Form

Shipping Form

Publication



Pradip Pathak

Additional Charges Form

Monogramming Form

Singing Telegram Form

Gift Wrapping Form

Testing



Natalie Wright

Broadway Shows From

Enhancements

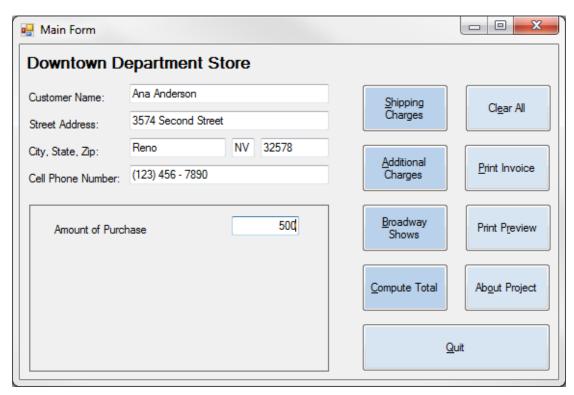
Testing

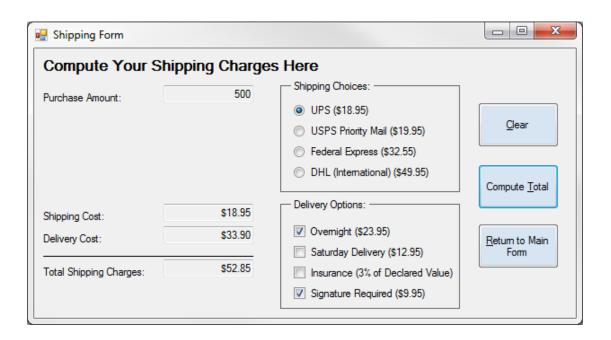
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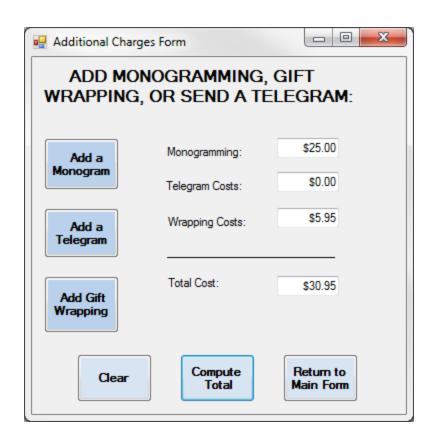
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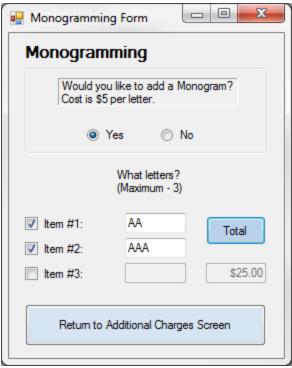
Part A – Test Data

Set One – Ana Anderson

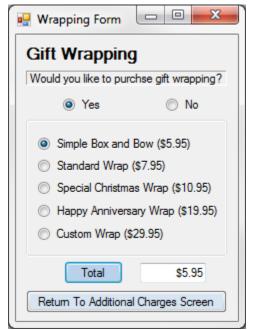


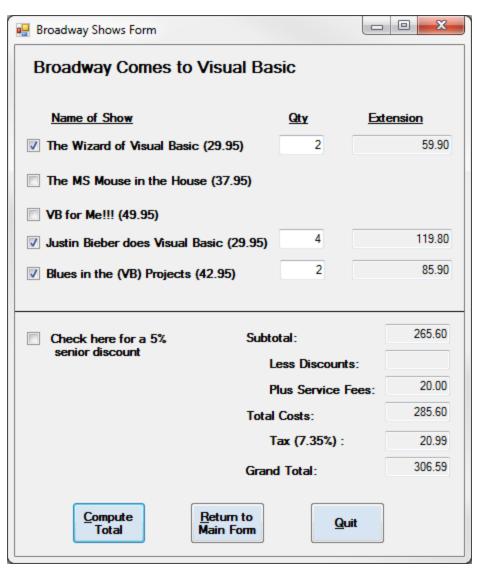


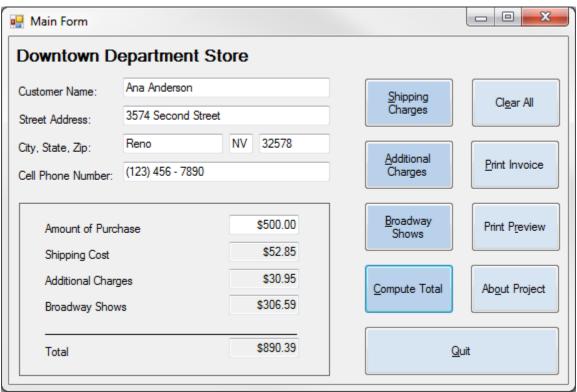


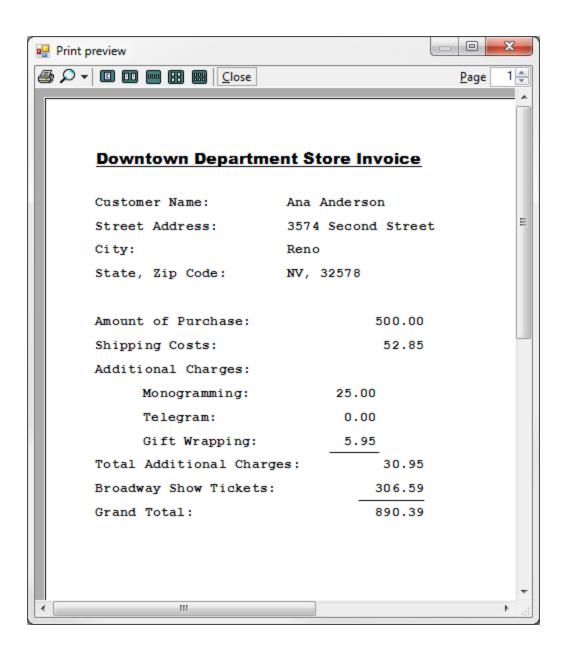




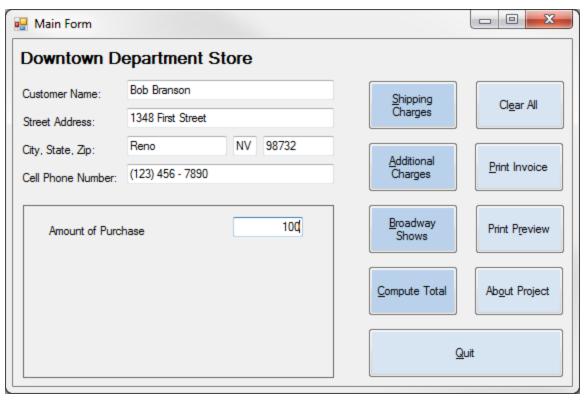


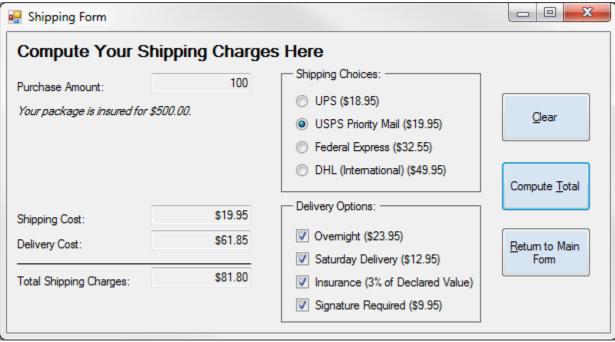




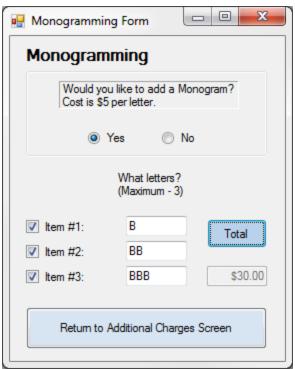


Set Two - Bob Branson



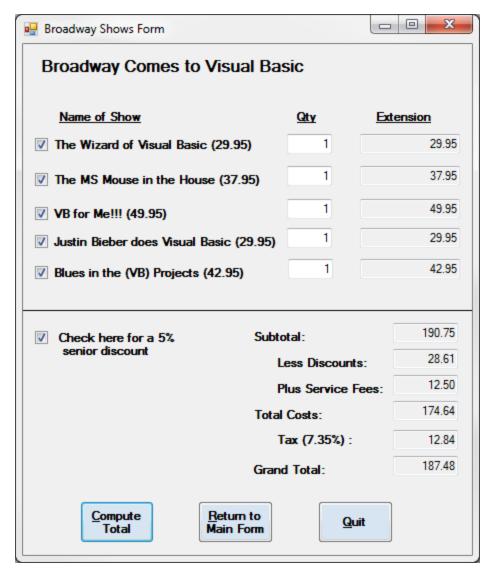


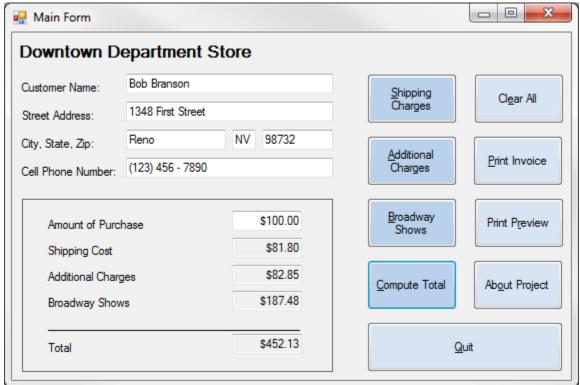


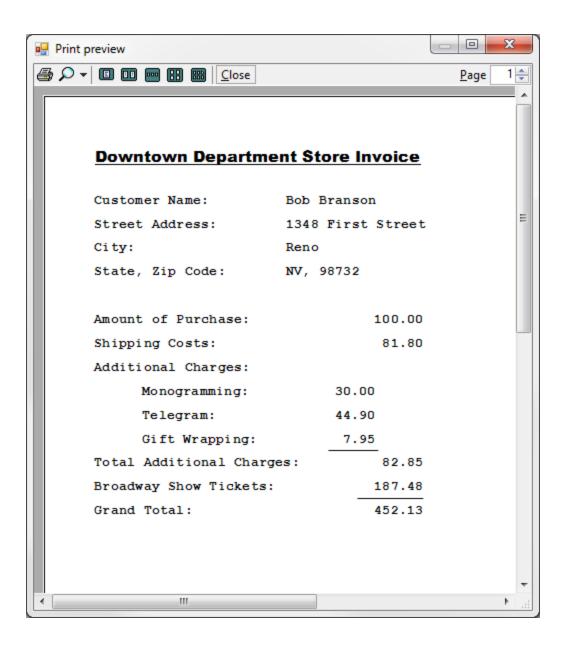




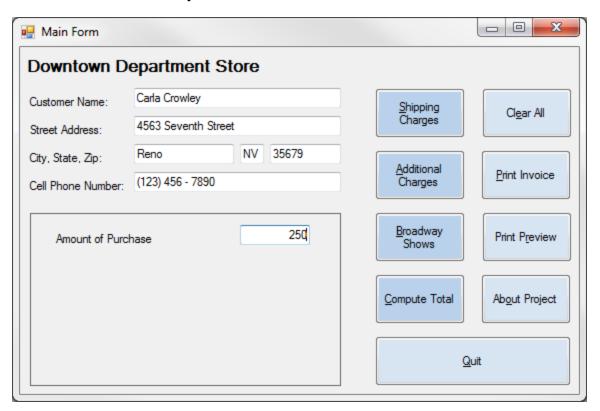




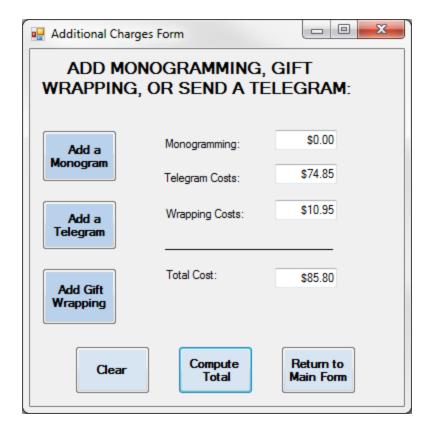


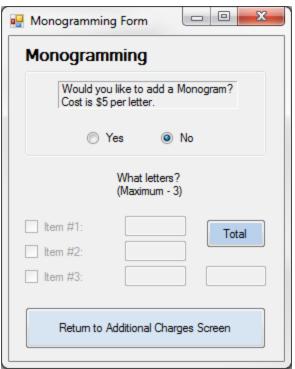


Set Three – Carla Crowley



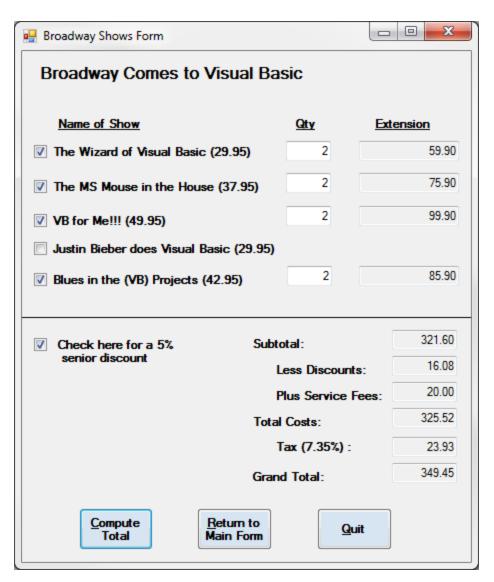


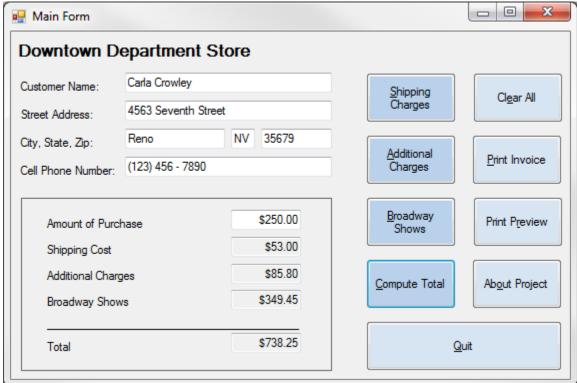


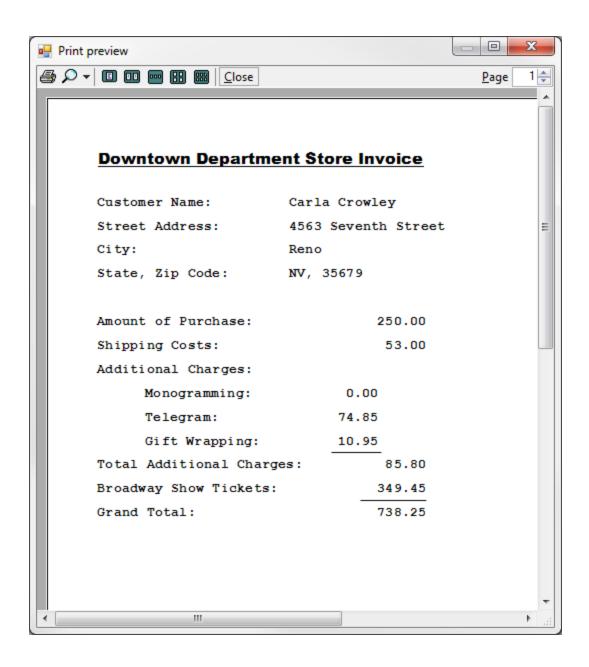




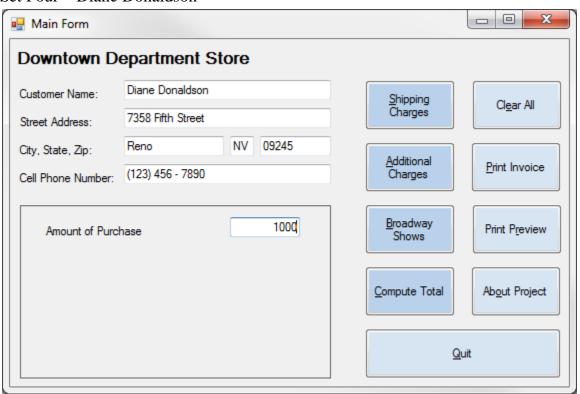




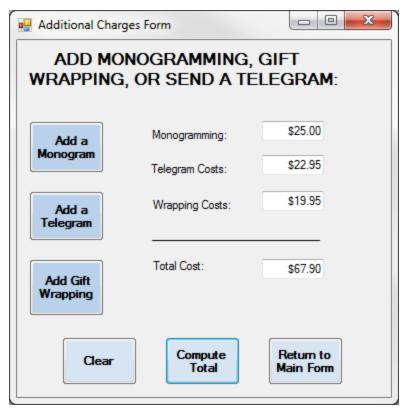


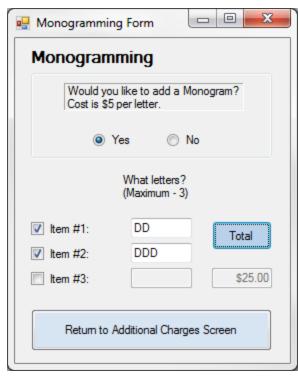


Set Four – Diane Donaldson



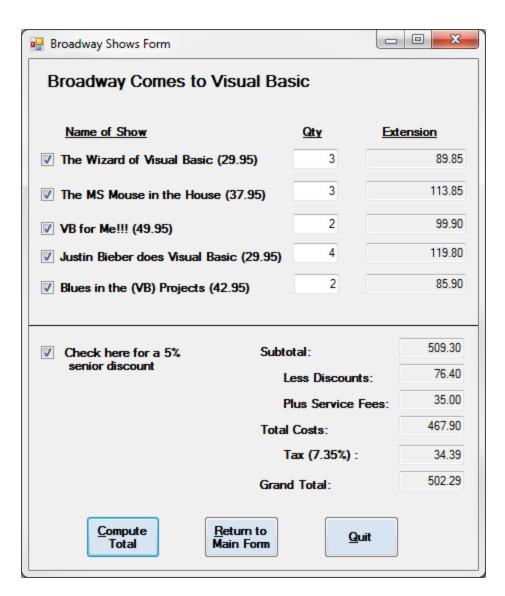


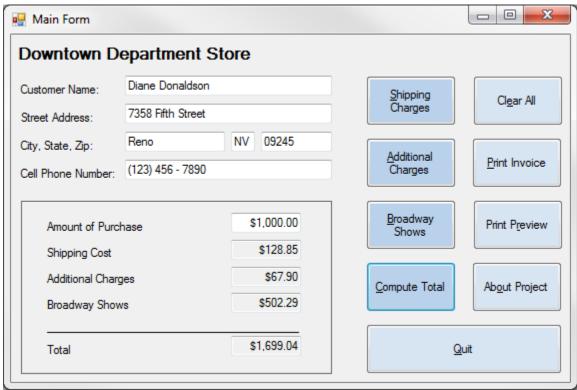


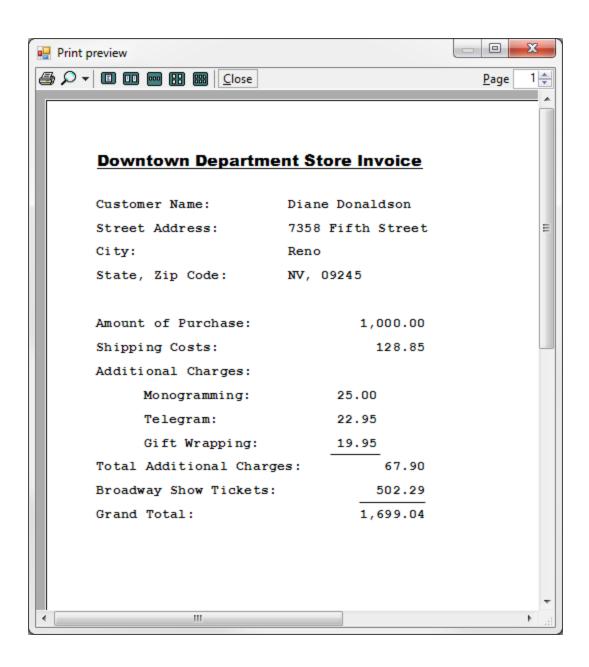






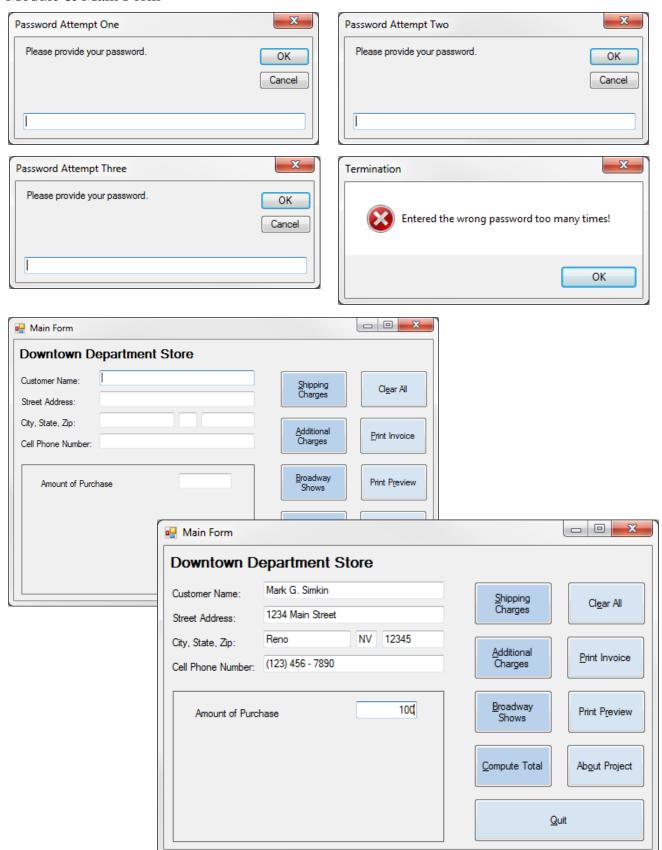






Part B – Technical Documentation

Module & Main Form



Module modMain

```
'Declare global variables.

Public Name, Address, City, StateZip As String

Public PurchaseAmount, TotalShippingCharges, TotalAdditionalCharges, TotalBroadwayShows, GrandTotal As Single

Public Insurance As String

Public ShippingCost, DeliveryCost As Single

Public monogrammingsum, telegramssum, wrappingsum As Single
```

End Module

Public Class frmMain

```
Private Sub frmMain Load(sender As Object, e As EventArgs) Handles MyBase.Load
  Test for valid password when main form loads. User gets three attempts.
  Dim Password As String
  Dim attempts As Single = 0
  While attempts < 5
    attempts += 1
    If attempts = 1 Then
       Password = InputBox("Please provide your password.", "Password Attempt One")
       If Password.ToLower = "a" Then
         attempts = 5
      ElseIf Password = "" Then
         MsgBox("No Password Found.", MsgBoxStyle.Information, "Error")
       End If
    ElseIf attempts = 2 Then
       Password = InputBox("Please provide your password.", "Password Attempt Two")
       If Password.ToLower = "a" Then
         attempts = 5
       ElseIf Password = "" Then
         MsgBox("No Password Found.", MsgBoxStyle.Information, "Error")
       End If
    ElseIf attempts = 3 Then
       Password = InputBox("Please provide your password.", "Password Attempt Three")
       If Password.ToLower = "a" Then
         attempts = 5
       ElseIf Password = "" Then
         MsgBox("No Password Found.", MsgBoxStyle.Information, "Error")
       End If
    ElseIf attempts = 4 Then
       MsgBox("Entered the wrong password too many times!", MsgBoxStyle.Critical, "Termination")
       Me.Close()
    End If
  End While
End Sub
```

```
Private Sub btnClearAll Click(sender As Object, e As EventArgs) Handles btnClearAll.Click
    'Clear all fields.
    txtName.Clear()
    txtAddress.Clear()
    txtCity.Clear()
    txtState.Clear()
    txtZip.Clear()
    txtPhone.Clear()
    txtPurchaseAmount.Clear()
    txtShippingCost.Clear()
    txtAdditionalCharges.Clear()
    txtBroadwayShows.Clear()
    txtGrandTotal.Clear()
  End Sub
  Private Sub btnComputeTotal_Click(sender As Object, e As EventArgs) Handles btnComputeTotal.Click
    'Display labels and textboxes.
    lblShippingCost.Visible = True
    txtShippingCost.Visible = True
    lblAdditionalCharges.Visible = True
    txtAdditionalCharges.Visible = True
    lblBroadwayShows.Visible = True
    txtBroadwayShows.Visible = True
    lblSpace.Visible = True
    lblGrandTotal.Visible = True
    txtGrandTotal.Visible = True
    'Compute GrandTotal.
    Grand Total = Purchase Amount + Total Shipping Charges + Total Additional Charges + Total Broadway Shows \\
    'Format totals as currency.
    txtPurchaseAmount.Text = FormatCurrency(PurchaseAmount)
    txtShippingCost.Text = FormatCurrency(TotalShippingCharges)
    txtAdditionalCharges.Text = FormatCurrency(TotalAdditionalCharges)
    txtBroadwayShows.Text = FormatCurrency(TotalBroadwayShows)
    txtGrandTotal.Text = FormatCurrency(GrandTotal)
  End Sub
  Private Sub btnAbout Click(sender As Object, e As EventArgs) Handles btnAbout.Click
    'Show about form.
    frmAbout.ShowDialog()
  End Sub
  Private Sub btnQuit Click(sender As Object, e As EventArgs) Handles btnQuit.Click
    'Close the form after user ensures they wanted to quit.
    If MsgBox("Are you sure you want to quit?", MsgBoxStyle.YesNo, "Quit Confirmation") = MsgBoxResult.Yes
Then
      Me.Close()
    End If
  End Sub
```

```
Private Sub btnShippingCharges Click(sender As Object, e As EventArgs) Handles btnShippingCharges.Click
    Test input boxes for valid content.
    If txtName.Text = "" Then
      MsgBox("No Customer Name Found.", MsgBoxStyle.Information, "Error")
      txtName.Focus()
      Exit Sub
    ElseIf txtAddress.Text = "" Then
      MsgBox("No Street Address Found.", MsgBoxStyle.Information, "Error")
      txtAddress.Focus()
      Exit Sub
    ElseIf txtCity.Text = "" Then
      MsgBox("No City Found.", MsgBoxStyle.Information, "Error")
      txtCity.Focus()
      Exit Sub
    ElseIf txtState.Text = "" Then
      MsgBox("No State Found.", MsgBoxStyle.Information, "Error")
      txtState.Focus()
      Exit Sub
    ElseIf txtZip.Text = "" Then
      MsgBox("No Zip Found.", MsgBoxStyle.Information, "Error")
      txtZip.Focus()
      Exit Sub
    ElseIf IsNumeric(txtZip.Text) = False Then
      MsgBox("Zip must be numeric.", MsgBoxStyle.Information, "Error")
      txtZip.Focus()
      Exit Sub
    ElseIf txtZip.Text Like "#####" = False Then
      MsgBox("Zip must be like 00000.", MsgBoxStyle.Information, "Error")
      txtZip.Focus()
      Exit Sub
    ElseIf txtPhone.Text = "" Then
      MsgBox("No Phone Number Found.", MsgBoxStyle.Information, "Error")
      txtPhone.Focus()
      Exit Sub
    ElseIf txtPurchaseAmount.Text = "" Then
      MsgBox("No Purchase Amount Found.", MsgBoxStyle.Information, "Error")
      txtPurchaseAmount.Focus()
      Exit Sub
    ElseIf IsNumeric(txtPurchaseAmount.Text) = False Then
      MsgBox("Purchase Amount must be numeric.", MsgBoxStyle.Information, "Error")
      txtPurchaseAmount.Focus()
      Exit Sub
    End If
    'Save purchase amount as global variable.
    PurchaseAmount = txtPurchaseAmount.Text
    'Show shipping form.
    frmShip.ShowDialog()
    'Display global variable.
    txtShippingCost.Text = TotalShippingCharges
    lblShippingCost.Visible = True
    txtShippingCost.Visible = True
  End Sub
```

```
Private Sub btnAdditionalCharges_Click(sender As Object, e As EventArgs) Handles btnAdditionalCharges.Click
    Test input boxes for valid content.
    If txtName.Text = "" Then
       MsgBox("No Customer Name Found.", MsgBoxStyle.Information, "Error")
       txtName.Focus()
       Exit Sub
    ElseIf txtAddress.Text = "" Then
       MsgBox("No Street Address Found.", MsgBoxStyle.Information, "Error")
       txtAddress.Focus()
       Exit Sub
    ElseIf txtCity.Text = "" Then
       MsgBox("No City Found.", MsgBoxStyle.Information, "Error")
       txtCity.Focus()
       Exit Sub
    ElseIf txtState.Text = "" Then
       MsgBox("No State Found.", MsgBoxStyle.Information, "Error")
       txtState.Focus()
       Exit Sub
    ElseIf txtZip.Text = "" Then
       MsgBox("No Zip Found.", MsgBoxStyle.Information, "Error")
      txtZip.Focus()
       Exit Sub
    ElseIf IsNumeric(txtZip.Text) = False Then
       MsgBox("Zip must be numeric.", MsgBoxStyle.Information, "Error")
      txtZip.Focus()
       Exit Sub
    ElseIf txtZip.Text Like "####" = False Then
       MsgBox("Zip must be like 00000.", MsgBoxStyle.Information, "Error")
       txtZip.Focus()
       Exit Sub
    ElseIf txtPhone.Text = "" Then
       MsgBox("No Phone Number Found.", MsgBoxStyle.Information, "Error")
       txtPhone.Focus()
       Exit Sub
    ElseIf txtPurchaseAmount.Text = "" Then
       MsgBox("No Purchase Amount Found.", MsgBoxStyle.Information, "Error")
       txtPurchaseAmount.Focus()
       Exit Sub
    ElseIf IsNumeric(txtPurchaseAmount.Text) = False Then
       MsgBox("Purchase Amount must be numeric.", MsgBoxStyle.Information, "Error")
       txtPurchaseAmount.Focus()
      Exit Sub
    End If
    'Save purchase amount as global variable.
    PurchaseAmount = txtPurchaseAmount.Text
    'Show additional charges form.
    frmAdd.ShowDialog()
    'Display global variable.
    txtAdditionalCharges.Text = TotalAdditionalCharges
    lblAdditionalCharges. Visible = True
    txtAdditionalCharges. Visible = True
  End Sub
```

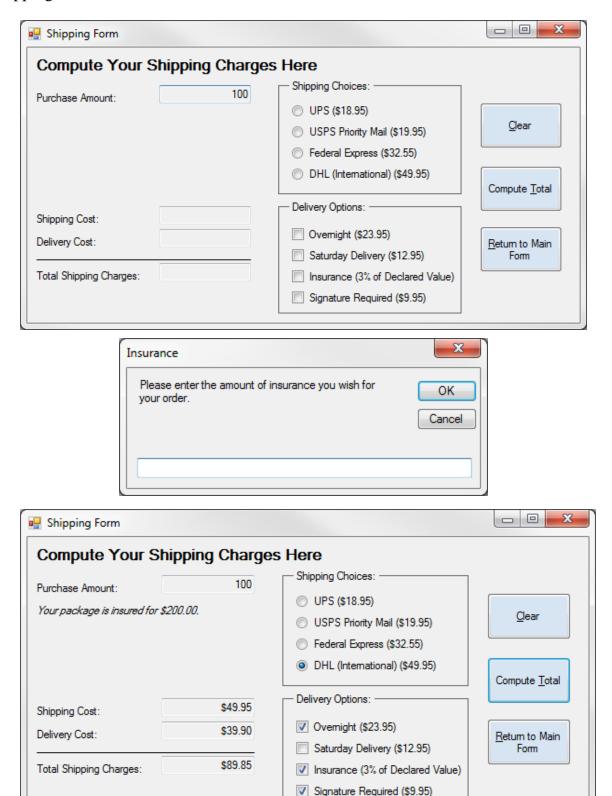
```
Private Sub btnBroadwayShows Click(sender As Object, e As EventArgs) Handles btnBroadwayShows.Click
    Test input boxes for valid content.
    If txtName.Text = "" Then
      MsgBox("No Customer Name Found.", MsgBoxStyle.Information, "Error")
      txtName.Focus()
      Exit Sub
    ElseIf txtAddress.Text = "" Then
      MsgBox("No Street Address Found.", MsgBoxStyle.Information, "Error")
      txtAddress.Focus()
      Exit Sub
    ElseIf txtCity.Text = "" Then
      MsgBox("No City Found.", MsgBoxStyle.Information, "Error")
      txtCity.Focus()
      Exit Sub
    ElseIf txtState.Text = "" Then
      MsgBox("No State Found.", MsgBoxStyle.Information, "Error")
      txtState.Focus()
      Exit Sub
    ElseIf txtZip.Text = "" Then
       MsgBox("No Zip Found.", MsgBoxStyle.Information, "Error")
      txtZip.Focus()
      Exit Sub
    ElseIf IsNumeric(txtZip.Text) = False Then
      MsgBox("Zip must be numeric.", MsgBoxStyle.Information, "Error")
      txtZip.Focus()
      Exit Sub
    ElseIf txtZip.Text Like "####" = False Then
       MsgBox("Zip must be like 00000.", MsgBoxStyle.Information, "Error")
      txtZip.Focus()
      Exit Sub
    ElseIf txtPhone.Text = "" Then
      MsgBox("No Phone Number Found.", MsgBoxStyle.Information, "Error")
      txtPhone.Focus()
      Exit Sub
    ElseIf txtPurchaseAmount.Text = "" Then
      MsgBox("No Purchase Amount Found.", MsgBoxStyle.Information, "Error")
      txtPurchaseAmount.Focus()
      Exit Sub
    ElseIf IsNumeric(txtPurchaseAmount.Text) = False Then
       MsgBox("Purchase Amount must be numeric.", MsgBoxStyle.Information, "Error")
      txtPurchaseAmount.Focus()
      Exit Sub
    End If
    'Save purchase amount as global variable.
    PurchaseAmount = txtPurchaseAmount.Text
    'Show broadway form.
    frmBroad.ShowDialog()
    'Display global variable.
    txtBroadwayShows.Text = TotalBroadwayShows
    lblBroadwayShows.Visible = True
    txtBroadwayShows.Visible = True
  End Sub
```

```
Private Sub btnPrintInvoice Click(sender As Object, e As EventArgs) Handles btnPrintInvoice.Click
     Print Invoice.
    PrintInvoice.Print()
  End Sub
  Private Sub btnPrintPreview Click(sender As Object, e As EventArgs) Handles btnPrintPreview.Click
     Preview print invoice.
    PreviewInvoice.Document = PrintInvoice
    PreviewInvoice.ShowDialog()
  End Sub
  Private Sub PrintInvoice_PrintPage(sender As Object, e As Printing.PrintPageEventArgs) Handles
PrintInvoice.PrintPage
     'Set information variables
    Name = txtName.Text
    Address = txtAddress.Text
    City = txtCity.Text
    StateZip = txtState.Text & ", " & txtZip.Text
    'Declare and set printing variables.
    Dim g As Graphics = e.Graphics
    Dim x0 As Single = 50
    Dim x1 As Single = 275
    Dim x2 As Single = 100
    Dim x3 As Single = 325
    Dim x4 As Single = 250
    Dim v0 As Single = 50
    Dim y1 As Single = 25
    Dim y2 As Single = 50
    Dim y3 As Single = 5
    Dim h As New Font("Arial Black", 12, FontStyle.Underline)
    Dim b As New Font("Courier New", 10, FontStyle.Bold)
    Dim fmt As String = \{0.8:n2\}"
    'Draw heading.
    g.DrawString("Downtown Department Store Invoice", h, Brushes.Black, x0, y0)
    y0 += y2
    'Draw customer information.
    g.DrawString("Customer Name:", b, Brushes.Black, x0, y0)
    g.DrawString(Name, b, Brushes.Black, x4, y0)
    v0 += v1
    g.DrawString("Street Address:", b, Brushes.Black, x0, y0)
    g.DrawString(Address, b, Brushes.Black, x4, y0)
    v0 += v1
    g.DrawString("City:", b, Brushes.Black, x0, y0)
    g.DrawString(City, b, Brushes.Black, x4, y0)
    y0 += y1
    g.DrawString("State, Zip Code:", b, Brushes.Black, x0, y0)
    g.DrawString(StateZip, b, Brushes.Black, x4, y0)
    y0 += y2
```

```
'Draw invoice amounts.
  g.DrawString("Amount of Purchase:", b, Brushes.Black, x0, y0)
  g.DrawString(String.Format(fmt, PurchaseAmount), b, Brushes.Black, x3, y0)
  v0 += v1
  g.DrawString("Shipping Costs:", b, Brushes.Black, x0, y0)
  g.DrawString(String,Format(fmt, TotalShippingCharges), b, Brushes.Black, x3, y0)
  y0 += y1
  g.DrawString("Additional Charges:", b, Brushes.Black, x0, y0)
  v0 += v1
  g.DrawString("Monogramming:", b, Brushes.Black, x2, y0)
  g.DrawString(String.Format(fmt, monogrammingsum), b, Brushes.Black, x1, y0)
  y0 += y1
  g.DrawString("Telegram:", b, Brushes.Black, x2, y0)
  g.DrawString(String.Format(fmt, telegramssum), b, Brushes.Black, x1, v0)
  y0 += y1
  g.DrawString("Gift Wrapping:", b, Brushes.Black, x2, y0)
  g.DrawString(String.Format(fmt, wrappingsum), b, Brushes.Black, x1, y0)
  g.DrawString("_____", b, Brushes.Black, x1 + 20, y0 + y3)
  v0 += v1
  g.DrawString("Total Additional Charges:", b, Brushes.Black, x0, y0)
  g.DrawString(String.Format(fmt, TotalAdditionalCharges), b, Brushes.Black, x3, y0)
  v0 += v1
  g.DrawString("Broadway Show Tickets:", b, Brushes.Black, x0, y0)
  g.DrawString(String,Format(fmt, TotalBroadwayShows), b, Brushes,Black, x3, v0)
  g.DrawString("_____", b, Brushes.Black, x3, y0 + y3)
  y0 += y1
  g.DrawString("Grand Total:", b, Brushes.Black, x0, y0)
  g.DrawString(String.Format(fmt, GrandTotal), b, Brushes.Black, x3, y0)
End Sub
```

End Class

Shipping Form



Public Class frmShip

```
'Display purchase amount global variable locally.
  txtPurchaseAmount.Text = PurchaseAmount
End Sub
Private Sub btnClear Click(sender As Object, e As EventArgs) Handles btnClear.Click
  'Clear all fields and local variables.
  rdoUPS.Checked = False
  rdoUSPS.Checked = False
  rdoFedEx.Checked = False
  rdoDHL.Checked = False
  chkOvernight.Checked = False
  chkSaturday.Checked = False
  chkSignature.Checked = False
  chkInsurance.Checked = False
  shippingCost = 0
  txtShippingCost.Clear()
  deliveryCost = 0
  txtDeliveryCost.Clear()
  txtTotalShippingCharges.Clear()
End Sub
Private Sub btnComputeTotal_Click(sender As Object, e As EventArgs) Handles btnComputeTotal.Click
  'Compute the total shipping costs.
  txtShippingCost.Text = FormatCurrency(ShippingCost)
  txtDeliveryCost.Text = FormatCurrency(DeliveryCost)
  TotalShippingCharges = ShippingCost + DeliveryCost
  txtTotalShippingCharges.Text = FormatCurrency(TotalShippingCharges)
End Sub
Private Sub btnReturn_Click(sender As Object, e As EventArgs) Handles btnReturn.Click
  'Save shipping charges as a global variable and then close.
  TotalShippingCharges = Math.Round(TotalShippingCharges, 2)
  Me.Close()
End Sub
```

Private Sub frmShip_Load(sender As Object, e As EventArgs) Handles MyBase.Load

```
rdoDHL.CheckedChanged, rdoFedEx.CheckedChanged, rdoUSPS.CheckedChanged, rdoUPS.CheckedChanged
    Recalculate the shipping costs each time a radio button is clicked.
    txtShippingCost.Clear()
    ShippingCost = 0
    If rdoDHL.Checked Then
      ShippingCost = 49.95
    End If
    If rdoFedEx.Checked Then
      ShippingCost = 32.55
    End If
    If rdoUSPS.Checked Then
      ShippingCost = 19.95
    End If
    If rdoUPS.Checked Then
      ShippingCost = 18.95
    End If
    txtShippingCost.Text = ShippingCost
  End Sub
  Private Sub chkInsurance CheckedChanged(sender As Object, e As EventArgs) Handles
chkInsurance.CheckedChanged
    'Check insurance and set the insurance variable.
    If chkInsurance.Checked Then
      Insurance = InputBox("Please enter the amount of insurance you wish for your order.", "Insurance")
      If Insurance = "" Then
         MsgBox("Insurance was not found.", MsgBoxStyle.Information, "Error")
         chkInsurance.Checked = False
         Exit Sub
      ElseIf IsNumeric(Insurance) = False Then
         MsgBox("Insurance is not numeric.", MsgBoxStyle.Information, "Error")
         chkInsurance.Checked = False
         Exit Sub
      ElseIf Insurance < 1 Or Insurance > 100000 Then
         MsgBox("Insurance must be between 1 and 100000.", MsgBoxStyle.Information, "Error")
         chkInsurance.Checked = False
         Exit Sub
      End If
      lblInsurance.Text = "Your package is insured for " & FormatCurrency(Insurance) & "."
      lblInsurance. Visible = True
    Else
      lblInsurance. Visible = False
      Insurance = 0
    End If
  End Sub
```

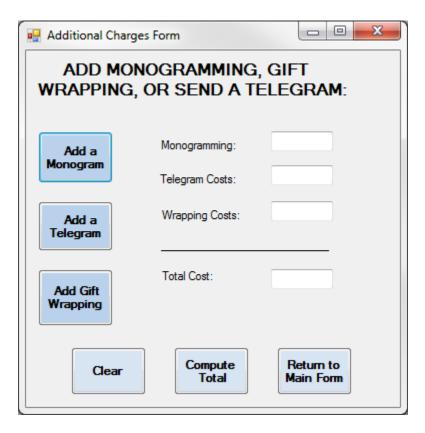
Private Sub rdoDHL_rdoFedEx_rdoUSPS_rdoUPS_CheckedChanged(sender As Object, e As EventArgs) Handles

Private Sub chkSignature_chkSaturday_chkOvernight_CheckedChanged(sender As Object, e As EventArgs) Handles chkSignature.CheckedChanged, chkSaturday.CheckedChanged, chkInsurance.CheckedChanged, chkOvernight.CheckedChanged

```
Recalculate the delivery costs each time a delivery option is clicked.
  txtDeliveryCost.Clear()
  DeliveryCost = 0
  If chkSignature.Checked Then
    DeliveryCost += 9.95
  If chkSaturday.Checked Then
    DeliveryCost += 12.95
  End If
  If chkInsurance.Checked Then
    DeliveryCost += Insurance * 0.03
  End If
  If chkOvernight.Checked Then
    DeliveryCost += 23.95
  End If
  txtDeliveryCost.Text = DeliveryCost
End Sub
```

End Class

Additional Charges Form

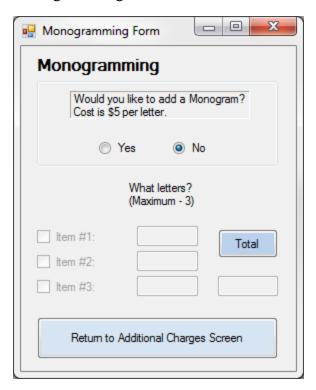


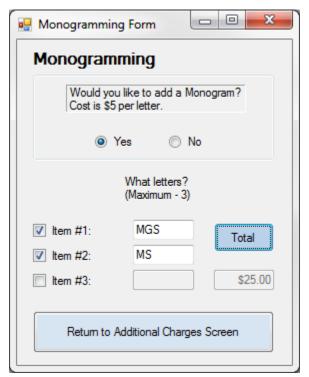


```
Private Sub btnMonogram_Click(sender As Object, e As EventArgs) Handles btnMonogram.Click
  'Show monogram form.
  frmMono.ShowDialog()
  txtBoxMono.Text = FormatCurrency(monogrammingsum)
End Sub
Private Sub btnTelegram_Click(sender As Object, e As EventArgs) Handles btnTelegram.Click
  'Show telegram form.
  frmTele.ShowDialog()
  txtBoxTele.Text = FormatCurrency(telegramssum)
End Sub
Private Sub btnWrapping_Click(sender As Object, e As EventArgs) Handles btnWrapping.Click
  'Show wrapping form.
  frmWrap.ShowDialog()
  txtBoxWrap.Text = FormatCurrency(wrappingsum)
End Sub
Private Sub btnClear Click(sender As Object, e As EventArgs) Handles btnClear.Click
  'Clear all fields.
  txtBoxMono.Clear()
  txtBoxTele.Clear()
  txtBoxWrap.Clear()
  txtBoxTotalCost.Clear()
End Sub
Private Sub btnComputeTotal_Click(sender As Object, e As EventArgs) Handles btnComputeTotal.Click
  'Compute the total shipping costs and format as currency.
  TotalAdditionalCharges = monogrammingsum + telegramssum + wrappingsum
  txtBoxTotalCost.Text = FormatCurrency(TotalAdditionalCharges)
End Sub
Private Sub btnReturn Click(sender As Object, e As EventArgs) Handles btnReturn.Click
  'Save additional charges as a global variable and then close.
  TotalAdditionalCharges = Math.Round(TotalAdditionalCharges, 2)
  Me.Close()
End Sub
```

End Class

Monogramming Form





```
Private Sub Monogramming_Load_radButtonNo_CheckedChanged(sender As Object, e As EventArgs) Handles
MyBase.Load, radButtonNo.CheckedChanged
    'Disable checkboxes and textboxes.
    chkBox1.Enabled = False
    chkBox2.Enabled = False
    chkBox3.Enabled = False
    chkBox1.Checked = False
    txtBoxItem1.Enabled = False
    txtBoxItem2.Enabled = False
    txtBoxItem3.Enabled = False
    txtBoxMonogramming.Enabled = False
  End Sub
  Private Sub radButtonYes_CheckedChanged(sender As Object, e As EventArgs) Handles
radButtonYes.CheckedChanged
    'Enable the checkboxes and check the first checkbox.
    chkBox1.Enabled = True
    chkBox2.Enabled = True
    chkBox3.Enabled = True
    txtBoxItem1.Enabled = True
    chkBox1.Checked = True
  End Sub
  Private Sub chkBox2_CheckedChanged(sender As Object, e As EventArgs) Handles chkBox2.CheckedChanged
    'Enable textbox 2 when checkbox 2 is checked.
    txtBoxItem2.Enabled = True
  End Sub
  Private Sub chkBox3_CheckedChanged(sender As Object, e As EventArgs) Handles chkBox3.CheckedChanged
    'Enable textbox 3 when checkbox 3 is checked.
    txtBoxItem3.Enabled = True
  End Sub
```

```
Private Sub btnTotal Click(sender As Object, e As EventArgs) Handles btnTotal.Click
    'Compute the total price based on each items length.
    Dim length1, price1 As Double
    Dim length2, price2 As Double
    Dim length3, price3 As Double
    If chkBox1.Checked Then
      Test input box for valid content.
      If txtBoxItem1.Text = "" Then
         MsgBox("No Item #1 Monogram Found.", MsgBoxStyle.Information, "Error")
         txtBoxItem1.Focus()
         Exit Sub
      ElseIf txtBoxItem1.Text.Trim.Length <= 3 Then
         MsgBox("Item #1 Monogram is 3 or less characters.", MsgBoxStyle.Information, "Error")
      length1 = txtBoxItem1.Text.Trim.Length
      price1 = length1 * 5
    End If
    If chkBox2.Checked Then
      Test input box for valid content.
      If txtBoxItem2.Text = "" Then
         MsgBox("No Item #2 Monogram Found.", MsgBoxStyle.Information, "Error")
         txtBoxItem2.Focus()
         Exit Sub
      ElseIf txtBoxItem2.Text.Trim.Length <= 3 Then
         MsgBox("Item #2 Monogram is 3 or less characters.", MsgBoxStyle.Information, "Error")
      End If
      length2 = txtBoxItem2.Text.Trim.Length
      price2 = length2 * 5
    End If
    If chkBox3.Checked Then
      'Test input box for valid content.
      If txtBoxItem3.Text = "" Then
         MsgBox("No Item #3 Monogram Found.", MsgBoxStyle.Information, "Error")
         txtBoxItem3.Focus()
         Exit Sub
      ElseIf txtBoxItem3.Text.Trim.Length <= 3 Then
         MsgBox("Item #3 Monogram is 3 or less characters.", MsgBoxStyle.Information, "Error")
      End If
      length3 = txtBoxItem3.Text.Trim.Length
      price3 = length3 * 5
    End If
    monogrammingsum = price1 + price2 + price3
    txtBoxMonogramming.Text = FormatCurrency(monogrammingsum)
  End Sub
  Private Sub btnReturn_Click(sender As Object, e As EventArgs) Handles btnReturn.Click
    'Save monogrammingsum as a global variable and close.
    monogrammingsum = Math.Round(monogrammingsum, 2)
    Me.Close()
  End Sub
```

Telegram Form

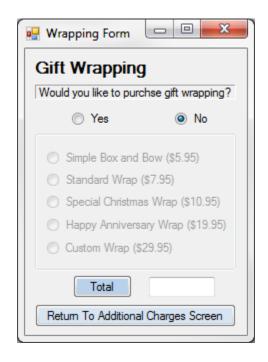


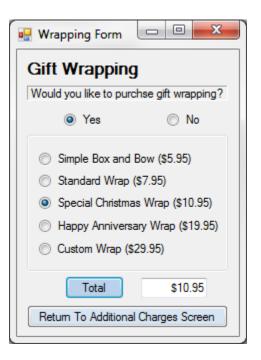


```
Private Sub Telegrams Load radBtnNo CheckedChanged(sender As Object, e As EventArgs) Handles
MyBase.Load, radBtnNo.CheckedChanged
    'Disable checkboxes.
    chkBoxAnniv.Enabled = False
    chkBoxBirth.Enabled = False
    chkBoxChrist.Enabled = False
    chkBoxValen.Enabled = False
  End Sub
  Private Sub radBtnYes_CheckedChanged(sender As Object, e As EventArgs) Handles radBtnYes.CheckedChanged
    Enable checkboxes when yes button is clicked.
    chkBoxAnniv.Enabled = True
    chkBoxBirth.Enabled = True
    chkBoxChrist.Enabled = True
    chkBoxValen.Enabled = True
  End Sub
  Private Sub btnCmpt_Click(sender As Object, e As EventArgs) Handles btnCmpt.Click
    'Compute total cost.
    Dim Birth, Anniv, Christ, Valen As Double
    txtBoxResult.Clear()
    If chkBoxBirth.Checked Then
      Birth = 19.95
    End If
    If chkBoxAnniv.Checked Then
      Anniv = 22.95
    End If
    If chkBoxChrist.Checked Then
       Christ = 24.95
    End If
    If chkBoxValen.Checked Then
       Valen = 29.95
    End If
    telegramssum = Birth + Anniv + Christ + Valen
    txtBoxResult.Text = FormatCurrency(telegramssum)
  End Sub
  Private Sub chkBoxBirth_CheckedChanged(sender As Object, e As EventArgs) Handles
chkBoxBirth.CheckedChanged, chkBoxAnniv.CheckedChanged, chkBoxChrist.CheckedChanged,
chkBoxValen.CheckedChanged
    'Reset total cost when checkbox is checked.
    If chkBoxBirth.Checked = True Then txtBoxResult.Clear()
    If chkBoxAnniv.Checked = True Then txtBoxResult.Clear()
    If chkBoxChrist.Checked = True Then txtBoxResult.Clear()
    If chkBoxValen.Checked = True Then txtBoxResult.Clear()
    txtBoxResult.Text = "0"
  End Sub
```

```
Private Sub btnRetrn_Click(sender As Object, e As EventArgs) Handles btnRetrn.Click
'Save telegrammssum as global variable and close.
telegramssum = Math.Round(telegramssum, 2)
Me.Close()
End Sub
```

Gift Wrapping Form



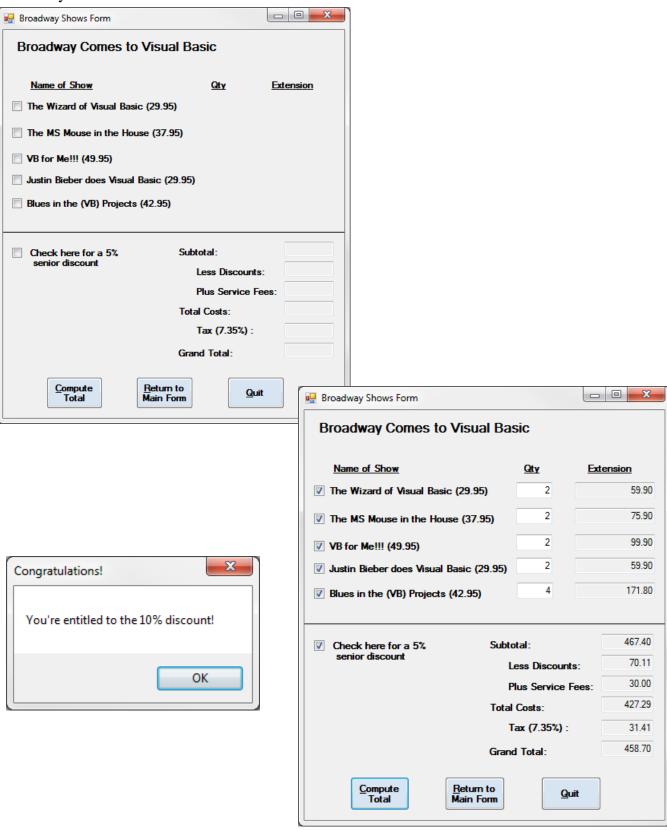


Public Class frmWrap

```
Private Sub Wrapping Load_radButtonNo_CheckedChanged(sender As Object, e As EventArgs) Handles
MyBase.Load, radButtonNo.CheckedChanged
    'Disable radio buttons on load.
    radButton1.Enabled = False
    radButton2.Enabled = False
    radButton3.Enabled = False
    radButton 4. Enabled = False
    radButton5.Enabled = False
  End Sub
  Private Sub radButtonYes CheckedChanged(sender As Object, e As EventArgs) Handles
radButtonYes.CheckedChanged
    'Enable radio buttons when yes button is clicked.
    radButton1.Enabled = True
    radButton2.Enabled = True
    radButton3.Enabled = True
    radButton4.Enabled = True
    radButton5.Enabled = True
  End Sub
  Private Sub btnTotal_Click(sender As Object, e As EventArgs) Handles btnTotal.Click
    'Compute the total based on which radio button is checked.
    Dim z As Double
    If radButton1.Checked = True Then txtBoxResult.Text = 5.95
    If radButton2.Checked = True Then txtBoxResult.Text = 7.95
    If radButton3.Checked = True Then txtBoxResult.Text = 10.95
    If radButton4.Checked = True Then txtBoxResult.Text = 19.95
    If radButton5.Checked = True Then txtBoxResult.Text = 29.95
    z = txtBoxResult.Text
    txtBoxResult.Text = FormatCurrency(z)
  End Sub
  Private Sub radButton1 CheckedChanged(sender As Object, e As EventArgs) Handles
radButton1.CheckedChanged, radButton2.CheckedChanged, radButton3.CheckedChanged,
radButton4.CheckedChanged, radButton5.CheckedChanged
     'Clear the total each time a radio button is clicked.
    If radButton1.Checked = True Then txtBoxResult.Clear()
    If radButton2.Checked = True Then txtBoxResult.Clear()
    If radButton3.Checked = True Then txtBoxResult.Clear()
    If radButton4.Checked = True Then txtBoxResult.Clear()
    If radButton5.Checked = True Then txtBoxResult.Clear()
  End Sub
```

Private Sub btnReturn_Click(sender As Object, e As EventArgs) Handles btnReturn.Click
'Save wrappingsum as a global variable and close.
wrappingsum = txtBoxResult.Text
Me.Close()
End Sub

Broadway Form



```
Private Sub chkBox1_CheckedChanged(sender As Object, e As EventArgs) Handles chkBox1.CheckedChanged
    'If CheckBox 1 is checked then it becomes visible, if it is unchecked it is hidden.
    If chkBox1.Checked = True Then
      txtBoxQTY1.Visible = True
      txtBoxExtension1.Visible = True
    Else
      txtBoxQTY1.Visible = False
      txtBoxExtension1.Visible = False
      txtBoxOTY1.Clear()
      txtBoxExtension1.Clear()
    End If
  End Sub
  Private Sub btnQuit_Click(sender As Object, e As EventArgs) Handles btnQuit.Click
    'Close the form after user ensures they wanted to guit.
    If MsgBox("Are you sure you want to quit?", MsgBoxStyle.YesNo, "Quit Confirmation") = MsgBoxResult.Yes
Then
      Me.Close()
    End If
  End Sub
  Private Sub chkBox2_CheckedChanged(sender As Object, e As EventArgs) Handles chkBox2.CheckedChanged
    'If CheckBox 2 is checked then it becomes visible, if it is unchecked it is hidden.
    If chkBox2.Checked = True Then
      txtBoxQTY2.Visible = True
      txtBoxExtension2.Visible = True
      txtBoxOTY2.Visible = False
      txtBoxExtension2.Visible = False
      txtBoxQTY2.Clear()
      txtBoxExtension2.Clear()
    End If
  End Sub
  Private Sub chkBox3_CheckedChanged(sender As Object, e As EventArgs) Handles chkBox3.CheckedChanged
    If CheckBox 3 is checked then it becomes visible, if it is unchecked it is hidden.
    If chkBox3.Checked = True Then
      txtBoxQTY3.Visible = True
      txtBoxExtension3.Visible = True
    Else
      txtBoxQTY3.Visible = False
      txtBoxExtension3.Visible = False
      txtBoxQTY3.Clear()
      txtBoxExtension3.Clear()
    End If
  End Sub
```

```
Private Sub chkBox4 CheckedChanged(sender As Object, e As EventArgs) Handles chkBox4.CheckedChanged
  If CheckBox 4 is checked then it becomes visible, if it is unchecked it is hidden.
  If chkBox4.Checked = True Then
    txtBoxQTY4.Visible = True
    txtBoxExtension4. Visible = True
  Else
    txtBoxQTY4.Visible = False
    txtBoxExtension4.Visible = False
    txtBoxQTY4.Clear()
    txtBoxExtension4.Clear()
  End If
End Sub
Private Sub chkBox5_CheckedChanged(sender As Object, e As EventArgs) Handles chkBox5.CheckedChanged
  If CheckBox 5 is checked then it becomes visible, if it is unchecked it is hidden.
  If chkBox5.Checked = True Then
    txtBoxOTY5.Visible = True
    txtBoxExtension5. Visible = True
  Else
    txtBoxExtension5.Visible = False
    txtBoxOTY5.Visible = False
    txtBoxQTY5.Clear()
    txtBoxExtension5.Clear()
  End If
End Sub
Private Sub btnComputeTotal_Click(sender As Object, e As EventArgs) Handles btnComputeTotal.Click
  'Calculates total price of tickets in extension box 1 by multiplying quantity times price.
  If chkBox1.Checked Then
    If IsNumeric(txtBoxQTY1.Text) = False Then
       MsgBox("Quantity must be a number.", , "Error")
       txtBoxQTY1.Clear()
       Exit Sub
    Else
       txtBoxExtension1.Text = FormatNumber(txtBoxQTY1.Text * 29.95)
    End If
  End If
  'Calculates total price of tickets in extension box 2 by multiplying quantity times price.
  If chkBox2.Checked Then
    If IsNumeric(txtBoxQTY2.Text) = False Then
       MsgBox("Quantity must be a number.", , "Error")
       txtBoxQTY2.Clear()
       Exit Sub
    Else
       txtBoxExtension2.Text = FormatNumber(txtBoxQTY2.Text * 37.95)
    End If
  End If
```

```
'Calculates total price of tickets in extension box 3 by multiplying quantity times price.
If chkBox3.Checked Then
  If IsNumeric(txtBoxOTY3.Text) = False Then
     MsgBox("Quantity must be a number.", , "Error")
     txtBoxQTY3.Clear()
     Exit Sub
  Else
     txtBoxExtension3.Text = FormatNumber(txtBoxQTY3.Text * 49.95)
  End If
End If
'Calculates total price of tickets in extension box 4 by multiplying quantity times price.
If chkBox4.Checked Then
  If IsNumeric(txtBoxOTY4.Text) = False Then
     MsgBox("Quantity must be a number.", , "Error")
     txtBoxQTY4.Clear()
     Exit Sub
  Else
     txtBoxExtension4.Text = FormatNumber(txtBoxQTY4.Text * 29.95)
  End If
End If
'Calculates total price of tickets in extension box 5 by multiplying quantity times price.
If chkBox5.Checked Then
  If IsNumeric(txtBoxQTY5.Text) = False Then
     MsgBox("Quantity must be a number.", , "Error")
     txtBoxQTY5.Clear()
     Exit Sub
  Else
     txtBoxExtension5.Text = FormatNumber(txtBoxQTY5.Text * 42.95)
  End If
End If
'Calculates total price of all tickets in Subtotal Textbox.
Dim total As Double
Dim x1 As Double = Val(txtBoxExtension1.Text)
Dim x2 As Double = Val(txtBoxExtension2.Text)
Dim x3 As Double = Val(txtBoxExtension3.Text)
Dim x4 As Double = Val(txtBoxExtension4.Text)
Dim x5 As Double = Val(txtBoxExtension5.Text)
total = x1 + x2 + x3 + x4 + x5
txtBoxSubtotal.Text = FormatNumber(total)
'Gives 10% discount if customer buys at least one of each ticket.
If IsNumeric(txtBoxQTY1.Text) = True And
  IsNumeric(txtBoxQTY2.Text) = True And
  IsNumeric(txtBoxOTY3.Text) = True And
  IsNumeric(txtBoxQTY4.Text) = True And
  IsNumeric(txtBoxOTY5.Text) = True Then
  txtBoxDiscounts.Text = (0.1 * txtBoxSubtotal.Text)
  MsgBox("You're entitled to the 10% discount!", , "Congratulations!")
Else : txtBoxDiscounts.Text = ""
End If
'Gives 5% Senior discount if checkbox is checked.
If chkBox6.Checked = True Then
  txtBoxDiscounts.Text = FormatNumber(0.05 * txtBoxSubtotal.Text)
  txtBoxDiscounts.Clear()
End If
```

```
'Gives 15% discount if customer checks senior discount box and orders at least one of each ticket.
  If IsNumeric(txtBoxQTY1.Text) = True And
    IsNumeric(txtBoxOTY2.Text) = True And
    IsNumeric(txtBoxQTY3.Text) = True And
    IsNumeric(txtBoxQTY4.Text) = True And
    IsNumeric(txtBoxOTY5.Text) = True And
    chkBox6.Checked = True Then
    txtBoxDiscounts.Text = FormatNumber(0.15 * txtBoxSubtotal.Text)
  End If
  'Gives 10% Discount if Senior Discount is unchecked and customer orders at least one of each ticket.
  If chkBox6. Checked = False And
    IsNumeric(txtBoxQTY1.Text) = True And
    IsNumeric(txtBoxOTY2.Text) = True And
    IsNumeric(txtBoxQTY3.Text) = True And
    IsNumeric(txtBoxQTY4.Text) = True And
    IsNumeric(txtBoxQTY5.Text) = True Then
    txtBoxDiscounts.Text = FormatNumber(0.1 * txtBoxSubtotal.Text)
  End If
  'Adds service fees of $2.50 times quantity of tickets selected.
  Dim boxQ1, boxQ2, boxQ3, boxQ4, boxQ5 As Double
  boxQ1 = Val(txtBoxQTY1.Text)
  boxQ2 = Val(txtBoxQTY2.Text)
  boxQ3 = Val(txtBoxQTY3.Text)
  boxQ4 = Val(txtBoxQTY4.Text)
  boxQ5 = Val(txtBoxQTY5.Text)
  txtBoxServiceFees.Text = FormatNumber((boxO1 + boxO2 + boxO3 + boxO4 + boxO5) * 2.5)
  Total cost of tickets after adding service fees and subtracting discounts.
  Dim y As Double = Val(txtBoxSubtotal.Text)
  Dim z As Double = Val(txtBoxServiceFees.Text)
  Dim q As Double = Val(txtBoxDiscounts.Text)
  txtBoxTotalCost.Text = FormatNumber(y + (z - q))
  'Calculates cost of tax at 7.35%.
  Dim n As Double = Val(txtBoxTotalCost.Text)
  txtBoxTax.Text = FormatNumber(0.0735 * n)
  'Grand total is total costs plus tax.
  Dim 1 As Double = Val(txtBoxTax.Text)
  Dim o As Double = Val(txtBoxTotalCost.Text)
  txtBoxGrandTotal.Text = FormatNumber(o + 1)
  TotalBroadwayShows = txtBoxGrandTotal.Text
End Sub
Private Sub btnReturn_Click(sender As Object, e As EventArgs) Handles btnReturn.Click
  'Alerts customer if they try to return to main form without having computed grand total.
  If IsNumeric(txtBoxGrandTotal.Text) = False Then
    MsgBox("Grand Total is blank!", , "Return")
  Else
    TotalBroadwayShows = Math.Round(TotalBroadwayShows, 2)
    Close()
  End If
End Sub
```

```
Private Sub chkBox6_CheckedChanged(sender As Object, e As EventArgs) Handles chkBox6.CheckedChanged
'Clears grand total textbox if senior discount is unchecked or checked after already being computed.

If chkBox6.Checked = False Then
    txtBoxGrandTotal.Clear()

End If

If chkBox6.Checked = True Then
    txtBoxGrandTotal.Clear()

End If

End Sub
```

Part C – Enhancements

Enhancement 1 – Zip Code Validation

For our first enhancement, we decided to create and additional zip code validation. This validation tests if the zip code entered matches a string of five integers. If the test fails the user is notified that the zip code is not in the proper format and then the sub will terminate execution. The validation was inserted into the existing validation rules for the Shipping, Additional Charges, and Broadway Click events.



ElseIf txtZip.Text Like "#####" = False Then

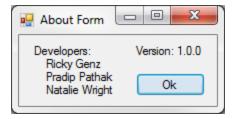
MsgBox("Zip must be like 00000.", MsgBoxStyle.Information, "Error")

txtZip.Focus()

Exit Sub

Enhancement 2 – About Form

For our second enhancement, we decided to create an about form. This form informs the user of the developers who built the application and the current version number of the application. The form performs one task. If the user clicks on the "Ok" button, the about form will terminate execution.



Public Class frmAbout

Private Sub btnOk_Click(sender As Object, e As EventArgs) Handles btnOk.Click 'Close about form after user clicks ok Me.Close()
End Sub