Unit 8.01 Programming Exercises 2

1. Hot Air Balloon. This program uses a timer and a picture image of a hot air balloon moving on the form. The picture box is stretched to match the height and width of the form. You will need to find an image of a hot air balloon and copy it to your resource file.

Public Class Form1

Private Sub tmrChangeImage\_Tick(ByVal sender As Object, ByVal e As System.EventArgs) Handles tmrChangeImage.Tick

Const MAX\_IMAGES As Integer = 3

Static image As Integer = 0

'display image

Select Case image

Case 0

Me.picImage.Image = My.Resources.hotairballoon1

Case 1

Me.picImage.Image = My.Resources.hotairballoon2

Case 2

Me.picImage.Image = My.Resources.hotairballoon3

End Select

image = (image + 1) Mod MAX\_IMAGES 'determine image

End Sub

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

End Sub

End Class

1. Kite. This program is similar to hot air balloon. See if you can increase the number of times the kite repositions itself on the form (hit add to the resource file) and if you can change the speed.
2. Public Class Form1
3. Private Sub tmrChangeImage\_Tick(ByVal sender As Object, ByVal e As System.EventArgs) Handles tmrChangeImage.Tick
4. Const MAX\_IMAGES As Integer = 3
5. Static image As Integer = 0
6. 'display image
7. Select Case image
8. Case 0
9. Me.picImage.Image = My.Resources.kite1
10. Case 1
11. Me.picImage.Image = My.Resources.kite2
12. Case 2
13. Me.picImage.Image = My.Resources.kite3
14. End Select
15. image = (image + 1) Mod MAX\_IMAGES 'determine image
16. End Sub
17. End Class

3. Moving Pie

Public Class Form1

Private Sub tmrStart\_Tick(ByVal sender As Object, ByVal e As System.EventArgs) Handles tmrStart.Tick

Dim formSurface As Graphics = Me.CreateGraphics

formSurface.Clear(Me.BackColor)

Dim maxX As Integer = Me.Size.Width

Dim maxY As Integer = Me.Size.Height

Randomize()

Dim x1 As Integer = Int(maxX \* Rnd() + 1)

Dim y1 As Integer = Int(maxY \* Rnd() + 1)

Dim x2 As Integer = Int(maxX \* Rnd() + 1)

Dim y2 As Integer = Int(maxY \* Rnd() + 1)

Dim magentaBrush As New SolidBrush(Color.Magenta)

Dim aquaBrush As New SolidBrush(Color.Aqua)

Dim navyBrush As New SolidBrush(Color.Navy)

Dim randomColor As Integer = Int(3 \* Rnd())

Select Case randomColor

Case 0

formSurface.FillPie(magentaBrush, x1, y1, x2, y2, 0, 180)

Case 1

formSurface.FillPie(aquaBrush, x1, y1, x2, y2, 0, 180)

Case 2

formSurface.FillPie(navyBrush, x1, y1, x2, y2, 0, 180)

End Select

End Sub

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

Me.tmrStart.Start()

End Sub

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

Me.tmrStart.Stop()

End Sub

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

Application.Exit()

End Sub

End Class

4. Moving Rectangle

Public Class Form1

Private Sub tmrStart\_Tick(ByVal sender As Object, ByVal e As System.EventArgs) Handles tmrStart.Tick

Dim formSurface As Graphics = Me.CreateGraphics

formSurface.Clear(Me.BackColor)

Dim maxX As Integer = Me.Size.Width

Dim maxY As Integer = Me.Size.Height

Randomize()

Dim x1 As Integer = Int(maxX \* Rnd() + 1)

Dim y1 As Integer = Int(maxY \* Rnd() + 1)

Dim x2 As Integer = Int(maxX \* Rnd() + 1)

Dim y2 As Integer = Int(maxY \* Rnd() + 1)

Dim pinkBrush As New SolidBrush(Color.Pink)

Dim yellowBrush As New SolidBrush(Color.Yellow)

Dim orangeBrush As New SolidBrush(Color.Orange)

Dim randomColor As Integer = Int(3 \* Rnd())

Select Case randomColor

Case 0

formSurface.FillRectangle(pinkBrush, x1, y1, x2, y2)

Case 1

formSurface.FillRectangle(yellowBrush, x1, y1, x2, y2)

Case 2

formSurface.FillRectangle(orangeBrush, x1, y1, x2, y2)

End Select

End Sub

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

Me.tmrStart.Start()

End Sub

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

Me.tmrStart.Stop()

End Sub

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

Application.Exit()

End Sub

End Class