

# Radio Group



```
/*  
Professional Windows GUI Programming Using C#  
by Jay Glynn, Csaba Torok, Richard Conway, Wahid Choudhury,  
Zach Greenvoss, Shripad Kulkarni, Neil Whitlow
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*/
```

```
using System;  
using System.Drawing;  
using System.Collections;  
using System.ComponentModel;  
using System.Windows.Forms;  
using System.Data;
```

```
namespace Peaks
```

```
{
```

```
///
```

```
/// Summary description for Peaks.
```

```
///
```

```
public class Peaks : System.Windows.Forms.Form
```

```
{
```

```
private System.Windows.Forms.GroupBox groupBox1;
```

```
private System.Windows.Forms.RadioButton radioButton1;
```

```
private System.Windows.Forms.RadioButton radioButton2;
```

```
private System.Windows.Forms.RadioButton radioButton3;
```

```
private System.Windows.Forms.RadioButton radioButton4;
```

```
private System.Windows.Forms.RadioButton radioButton5;
```

```
private System.Windows.Forms.RadioButton radioButton6;
```

```
private System.Windows.Forms.RadioButton radioButton7;
```

```
private System.Windows.Forms.RadioButton radioButton8;
```

```
private System.Windows.Forms.RadioButton radioButton9;
```

```
private System.Windows.Forms.RadioButton radioButton10;
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private System.Windows.Forms.RadioButton radioButton11;
private System.Windows.Forms.RadioButton radioButton12;

Point[] pnts = { new Point(20, 90), new Point(55, 70),
new Point(80, 80), new Point(105, 40),
new Point(130, 90)};

///

/// Required designer variable.
///
private System.ComponentModel.Container components = null;

public Peaks()
{
//
// Required for Windows Form Designer support
//
InitializeComponent();
this.radioButton1.CheckedChanged += new
System.EventHandler(RBs_CheckedChanged);
this.radioButton2.CheckedChanged += new
System.EventHandler(RBs_CheckedChanged);
this.radioButton3.CheckedChanged += new
System.EventHandler(RBs_CheckedChanged);
this.radioButton4.CheckedChanged += new
System.EventHandler(RBs_CheckedChanged);
this.radioButton5.CheckedChanged += new
System.EventHandler(RBs_CheckedChanged);
this.radioButton6.CheckedChanged += new
System.EventHandler(RBs_CheckedChanged);
this.radioButton7.CheckedChanged += new
System.EventHandler(RBs_CheckedChanged);
this.radioButton8.CheckedChanged += new
System.EventHandler(RBs_CheckedChanged);
this.radioButton9.CheckedChanged += new
System.EventHandler(RBs_CheckedChanged);
this.radioButton10.CheckedChanged += new

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System.EventHandler(RBs_CheckedChanged);
this.radioButton11.CheckedChanged += new
System.EventHandler(RBs_CheckedChanged);
this.radioButton12.CheckedChanged += new
System.EventHandler(RBs_CheckedChanged);

//
// TODO: Add any constructor code after InitializeComponent
call
//
}

///

/// Clean up any resources being used.
///
protected override void Dispose( bool disposing )
{
if( disposing )
{
if (components != null)
{
components.Dispose();
}
}
base.Dispose( disposing );
}

#region Windows Form Designer generated code
///

/// Required method for Designer support – do not modify
/// the contents of this method with the code editor.
///
private void InitializeComponent()
{
this.groupBox1 = new System.Windows.Forms.GroupBox();
this.radioButton1 = new System.Windows.Forms.RadioButton();
this.radioButton2 = new System.Windows.Forms.RadioButton();

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```
this.radioButton3 = new System.Windows.Forms.RadioButton();
this.radioButton6 = new System.Windows.Forms.RadioButton();
this.radioButton5 = new System.Windows.Forms.RadioButton();
this.radioButton4 = new System.Windows.Forms.RadioButton();
this.radioButton7 = new System.Windows.Forms.RadioButton();
this.radioButton9 = new System.Windows.Forms.RadioButton();
this.radioButton8 = new System.Windows.Forms.RadioButton();
this.radioButton10 = new System.Windows.Forms.RadioButton();
this.radioButton12 = new System.Windows.Forms.RadioButton();
this.radioButton11 = new System.Windows.Forms.RadioButton();
this.groupBox1.SuspendLayout();
this.SuspendLayout();
//
// groupBox1
//
this.groupBox1.Controls.AddRange(new
System.Windows.Forms.Control[] {
this.radioButton1,
this.radioButton2,
this.radioButton3,
this.radioButton6,
this.radioButton5,
this.radioButton4,
this.radioButton7,
this.radioButton9,
this.radioButton8,
this.radioButton10,
this.radioButton12,
this.radioButton11});
this.groupBox1.Location = new System.Drawing.Point(200, 8);
this.groupBox1.Name = "groupBox1";
this.groupBox1.Size = new System.Drawing.Size(304, 120);
this.groupBox1.TabIndex = 0;
this.groupBox1.TabStop = false;
this.groupBox1.Text = "Primitives";
//
// radioButton1
```

```
//
this.radioButton1.Location = new System.Drawing.Point(16, 24);
this.radioButton1.Name = "radioButton1";
this.radioButton1.Size = new System.Drawing.Size(88, 16);
this.radioButton1.TabIndex = 0;
this.radioButton1.Text = "4xLine";
//
// radioButton2
//
this.radioButton2.Location = new System.Drawing.Point(112,
24);
this.radioButton2.Name = "radioButton2";
this.radioButton2.Size = new System.Drawing.Size(56, 16);
this.radioButton2.TabIndex = 0;
this.radioButton2.Text = "Lines";
//
// radioButton3
//
this.radioButton3.Location = new System.Drawing.Point(184,
24);
this.radioButton3.Name = "radioButton3";
this.radioButton3.Size = new System.Drawing.Size(80, 16);
this.radioButton3.TabIndex = 0;
this.radioButton3.Text = "Polygon";
//
// radioButton6
//
this.radioButton6.Location = new System.Drawing.Point(184,
48);
this.radioButton6.Name = "radioButton6";
this.radioButton6.Size = new System.Drawing.Size(80, 16);
this.radioButton6.TabIndex = 0;
this.radioButton6.Text = "Curve 1.1";
//
// radioButton5
//
this.radioButton5.Location = new System.Drawing.Point(112,
```

```
48);
this.radioButton5.Name = "radioButton5";
this.radioButton5.Size = new System.Drawing.Size(88, 16);
this.radioButton5.TabIndex = 0;
this.radioButton5.Text = "Curve 0.6";
//
// radioButton4
//
this.radioButton4.Location = new System.Drawing.Point(16, 48);
this.radioButton4.Name = "radioButton4";
this.radioButton4.Size = new System.Drawing.Size(88, 16);
this.radioButton4.TabIndex = 0;
this.radioButton4.Text = "Curve 0";
//
// radioButton7
//
this.radioButton7.Location = new System.Drawing.Point(16, 72);
this.radioButton7.Name = "radioButton7";
this.radioButton7.Size = new System.Drawing.Size(88, 16);
this.radioButton7.TabIndex = 0;
this.radioButton7.Text = "2xBezier";
//
// radioButton9
//
this.radioButton9.Location = new System.Drawing.Point(184,
72);
this.radioButton9.Name = "radioButton9";
this.radioButton9.Size = new System.Drawing.Size(112, 16);
this.radioButton9.TabIndex = 0;
this.radioButton9.Text = "ClosedCurve 1.1";
//
// radioButton8
//
this.radioButton8.Location = new System.Drawing.Point(112,
72);
this.radioButton8.Name = "radioButton8";
this.radioButton8.Size = new System.Drawing.Size(88, 16);
```

```
this.radioButton8.TabIndex = 0;
this.radioButton8.Text = "Beziers";
//
// radioButton10
//
this.radioButton10.Location = new System.Drawing.Point(16,
96);
this.radioButton10.Name = "radioButton10";
this.radioButton10.Size = new System.Drawing.Size(88, 16);
this.radioButton10.TabIndex = 0;
this.radioButton10.Text = "2xBezier";
//
// radioButton12
//
this.radioButton12.Location = new System.Drawing.Point(184,
96);
this.radioButton12.Name = "radioButton12";
this.radioButton12.Size = new System.Drawing.Size(88, 16);
this.radioButton12.TabIndex = 0;
this.radioButton12.Text = "Curve";
//
// radioButton11
//
this.radioButton11.Location = new System.Drawing.Point(112,
96);
this.radioButton11.Name = "radioButton11";
this.radioButton11.Size = new System.Drawing.Size(88, 16);
this.radioButton11.TabIndex = 0;
this.radioButton11.Text = "Beziers";
//
// Peaks
//
this.AutoScaleBaseSize = new System.Drawing.Size(5, 13);
this.ClientSize = new System.Drawing.Size(504, 133);
this.Controls.AddRange(new System.Windows.Forms.Control[] {
this.groupBox1});
this.Name = "Peaks";
```

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this.Text = "Two Peaks";
this.groupBox1.ResumeLayout(false);
this.ResumeLayout(false);
}
#endregion

///

/// The main entry point for the application.
///
[STAThread]
static void Main()
{
Application.Run(new Peaks());
}
private void RBs_CheckedChanged(object sender,
System.EventArgs e)
{
this.Refresh();
}
protected override void OnPaint
(System.Windows.Forms.PaintEventArgs e)
{
Graphics g = e.Graphics;
g.Clear(this.BackColor);

if (this.radioButton1.Checked) Ex01_4xLine(g);
if (this.radioButton2.Checked) Ex02_Lines(g);
if (this.radioButton3.Checked) Ex03_Polygon(g);
if (this.radioButton4.Checked) Ex04_Curve0(g);
if (this.radioButton5.Checked) Ex05_Curve1(g);
if (this.radioButton6.Checked) Ex06_Curve2(g);
if (this.radioButton7.Checked) Ex07_2xBezier(g);
if (this.radioButton8.Checked) Ex08_Beziers(g);
if (this.radioButton9.Checked) Ex09_ClosedCurve(g);
if (this.radioButton10.Checked) Ex10_2xBezier_2(g);
if (this.radioButton11.Checked) Ex11_Beziers_2(g);
if (this.radioButton12.Checked) Ex11_Curve_2(g);

```



```

g.Dispose();
}
protected void Ex01_4xLine(Graphics g)
{
Pen pn = new Pen(Color.Blue, 2);
g.DrawLine(pn, 20, 90, 55, 70);
g.DrawLine(pn, 55, 70, 80, 80);
g.DrawLine(pn, 80, 80, 105, 40);
g.DrawLine(pn, 105, 40, 130, 90);
}

protected void Ex02_Lines(Graphics g)
{
Pen pn = new Pen(Color.Blue, 2);
g.DrawLines(pn, pnts);
}
protected void Ex03_Polygon(Graphics g)
{
Pen pn = new Pen(Color.Blue, 2);
g.DrawPolygon(pn, pnts);
}
protected void Ex04_Curve0(Graphics g)
{
Pen pn = new Pen(Color.Blue, 2);
g.DrawCurve(pn, pnts, 0.0f);
}
protected void Ex05_Curve1(Graphics g)
{
Pen pn = new Pen(Color.Blue, 2);
g.DrawCurve(pn, pnts, 0.6f);
}
protected void Ex06_Curve2(Graphics g)
{
Pen pn = new Pen(Color.Blue, 2);
g.DrawCurve(pn, pnts, 1.1f);
}
protected void Ex07_2xBezier(Graphics g)

```

```
{
Pen pn = new Pen(Color.Blue, 2);
g.DrawBezier(pn, 20, 90, 50, 70, 60, 70, 80, 80);
g.DrawBezier(pn, 80, 80,100, 40,110, 40,130, 90);
}
```

```
protected void Ex08_Beziers(Graphics g)
```

```
{
Pen pn = new Pen(Color.Blue, 2);
Point[] pnts = {new Point(20, 90), new Point(50, 70),
new Point(60, 70), new Point(80, 80),
new Point(100, 40), new Point(110, 40),
new Point(130, 90)};
g.DrawBeziers(pn, pnts);
}
```

```
protected void Ex09_ClosedCurve(Graphics g)
```

```
{
Pen pn = new Pen(Color.Blue, 2);
Point[] pnts = {new Point( 20, 90), new Point( 55, 70),
new Point( 80, 80), new Point(105, 40),
new Point(130, 90)};
g.DrawClosedCurve(pn, pnts, 1.1f,
System.Drawing.Drawing2D.FillMode.Winding);
}
```

```
protected void Ex10_2xBezier_2(Graphics g)
```

```
{
Pen pn = new Pen(Color.Blue, 2);
g.DrawBezier(pn, 20, 90, 50, 70, 60, 70, 80, 80);
g.DrawBezier(pn, 80, 80,100,120,110,120,130, 90);
}
```

```
protected void Ex11_Beziers_2(Graphics g)
```

```
{
Pen pn = new Pen(Color.Blue, 2);
int[,] xy = { { 20, 90}, { 50, 70},
{ 60, 70}, { 80, 80},
{100,120}, {110,120},
{130, 90}};
```

```
int ii = xy.GetLength(0);
Point[] pnts = new Point[ii];
for(int i = 0; i < ii; i++) { pnts[i].X = xy[i, 0]; pnts[i].Y
= xy[i, 1]; } g.DrawBeziers(pn, pnts); } protected void
Ex11_Curve_2(Graphics g) { Pen pn = new Pen(Color.Blue, 2);
Point[] pnts = {new Point( 20, 90), new Point( 55, 70), new
Point( 80, 80), new Point(105,120), new Point(130, 90)};
g.DrawCurve(pn, pnts, 0.0f); } } } [/csharp]
```