

SWINBURNE UNIVERSITY OF TECHNOLOGY

COS20007 OBJECT ORIENTED PROGRAMMING

---

## Drawing Program - A Basic Shape

---

PDF generated at 20:35 on Saturday 16<sup>th</sup> September, 2023

```
1  using System;
2  using System.Drawing;
3  using System.Windows.Forms;
4
5  public class RectangleDrawingForm : Form
6  {
7      private int rectX = 50;
8      private int rectY = 50;
9      private int rectWidth = 200;
10     private int rectHeight = 100;
11
12     public RectangleDrawingForm()
13     {
14         this.Paint += new PaintEventHandler(DrawRectangles);
15     }
16
17     private void DrawRectangles(object sender, PaintEventArgs e)
18     {
19         Graphics g = e.Graphics;
20         Pen pen = new Pen(Color.Black);
21         Rectangle rect1 = new Rectangle(rectX, rectY, rectWidth, rectHeight);
22         g.DrawRectangle(pen, rect1);
23     }
24
25     public static void Main()
26     {
27         Application.Run(new RectangleDrawingForm());
28     }
29 }
```

```
1  using System.Drawing;
2  using System.Windows.Forms;
3
4  public abstract class Shape
5  {
6      public int X { get; set; }
7      public int Y { get; set; }
8      public Color Color { get; set; }
9
10     public Shape(int x, int y, Color color)
11     {
12         X = x;
13         Y = y;
14         Color = color;
15     }
16
17     public abstract void Draw(Graphics graphics);
18 }
19
20 public class RectangleShape : Shape
21 {
22     public int Width { get; set; }
23     public int Height { get; set; }
24
25     public RectangleShape(int x, int y, int width, int height, Color color)
26         : base(x, y, color)
27     {
28         Width = width;
29         Height = height;
30     }
31
32     public override void Draw(Graphics graphics)
33     {
34         using (Brush brush = new SolidBrush(Color))
35         {
36             graphics.FillRectangle(brush, X, Y, Width, Height);
37         }
38     }
39 }
40
41 public class CircleShape : Shape
42 {
43     public int Radius { get; set; }
44
45     public CircleShape(int x, int y, int radius, Color color)
46         : base(x, y, color)
47     {
48         Radius = radius;
49     }
50
51     public override void Draw(Graphics graphics)
52     {
53         using (Brush brush = new SolidBrush(Color))
```

```
54         {  
55             graphics.FillEllipse(brush, X - Radius, Y - Radius, 2 * Radius, 2 *  
↪ Radius);  
56         }  
57     }  
58 }
```

