

SWINBURNE UNIVERSITY OF TECHNOLOGY

COS20007 OBJECT ORIENTED PROGRAMMING

2.3P - Drawing Program - A Basic Shape

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```
1  using System;
2  using SplashKitSDK;
3
4  namespace ShapeDrawer
5  {
6      public class Program
7      {
8          public static void Main()
9          {
10              Window window = new Window("Shape Drawer", 800, 600);
11
12              Shape myShape = new Shape();
13
14              do
15              {
16                  SplashKit.ProcessEvents();
17                  SplashKit.ClearScreen();
18
19                  if (SplashKit.MouseClicked(MouseButton.LeftButton))
20                  {
21                      myShape.X = SplashKit.MouseX();
22                      myShape.Y = SplashKit.MouseY();
23                  }
24
25                  if (myShape.IsAt(SplashKit.MousePosition()))
26                  {
27                      if (SplashKit.KeyTyped(KeyCode.SpaceKey))
28                      {
29                          myShape.Color = Color.RandomRGB(255);
30                      }
31                  }
32
33                  myShape.Draw();
34
35                  SplashKit.RefreshScreen();
36
37              } while (!window.CloseRequested);
38          }
39      }
40  }
```

```
1  using System;
2  using SplashKitSDK;
3
4  namespace ShapeDrawer
5  {
6      public class Shape
7      {
8          // local variables
9          private Color _color;
10         private float _x;
11         private float _y;
12         private int _width;
13         private int _height;
14
15         // constructor
16         public Shape()
17         {
18             _color = Color.Green;
19             _x = 0;
20             _y = 0;
21             _width = 100;
22             _height = 100;
23         }
24
25         // properties
26         public Color Color
27         {
28             get
29             {
30                 return _color;
31             }
32             set
33             {
34                 _color = value;
35             }
36         }
37
38         public float X
39         {
40             get
41             {
42                 return _x;
43             }
44             set
45             {
46                 _x = value;
47             }
48         }
49         public float Y
50         {
51             get
52             {
53                 return _y;
```

```
54         }
55         set
56         {
57             _y = value;
58         }
59     }
60
61     public int Width
62     {
63         get
64         {
65             return _width;
66         }
67         set
68         {
69             _width = value;
70         }
71     }
72     public int Height
73     {
74         get
75         {
76             return _height;
77         }
78         set
79         {
80             _height = value;
81         }
82     }
83
84     // methods
85     public void Draw()
86     {
87         SplashKit.FillRectangle(_color, _x, _y, _width, _height);
88     }
89
90     public bool IsAt(Point2D pt)
91     {
92         if ((pt.X > _x) && (pt.Y > _y))
93         {
94             if ((pt.X < _x + _width) && (pt.Y < _y + _height))
95             {
96                 return true;
97             }
98             else
99             {
100                 return false;
101             }
102         }
103         else
104         {
105             return false;
106         }
107     }
```

```
107
108     }
109
110
111     }
112
113 }
```

