Swinburne University of Technology

COS20007 Object Oriented Programming

Drawing Program - A Basic Shape

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```
using System;
using SplashKitSDK;

namespace ShapeDrawer
{
    public class Program
    {
        public static void Main()
        {
            // Create a window for the shape drawer
            Window window = new Window("Shape Drawer", 800, 600);
            Shape myShape = new Shape(Color.Green, 0, 0, 100, 100);
            do
            {
                // Processes events from user input
                SplashKit.ProcessEvents();
                SplashKit.ClearScreen();

                Point2D pt = SplashKit.MousePosition();

                // Set x to be mouseX and y to be MouseY if mouse clicked is true
                if (SplashKit.MouseClicked(MouseButton.LeftButton))
                {
                    myShape.X = SplashKit.MouseX();
                    myShape.Y = SplashKit.MouseY();
                }

                if (myShape.IsAt(pt) && SplashKit.KeyTyped(KeyCode.SpaceKey))
                {
                    myShape.color = Color.RandomRGB(255);
                }

                myShape.Draw();

                SplashKit.RefreshScreen();
            } while (!window.CloseRequested);
        }
    }
}
```

```
using SplashKitSDK;

namespace ShapeDrawer
{
    public class Shape
    {
        private Color _color;
        private float _x;
        private float _y;
        private int _width;
        private int _height;

        public Shape(Color color, float x, float y, int width, int height)
        {
            _color = color;
            _x = x;
            _y = y;
            _width = width;
            _height = height;
        }

        public Color color
        {
            get { return _color; }
            set { _color = value; }
        }

        public float X
        {
            get { return _x; }
            set { _x = value; }
        }

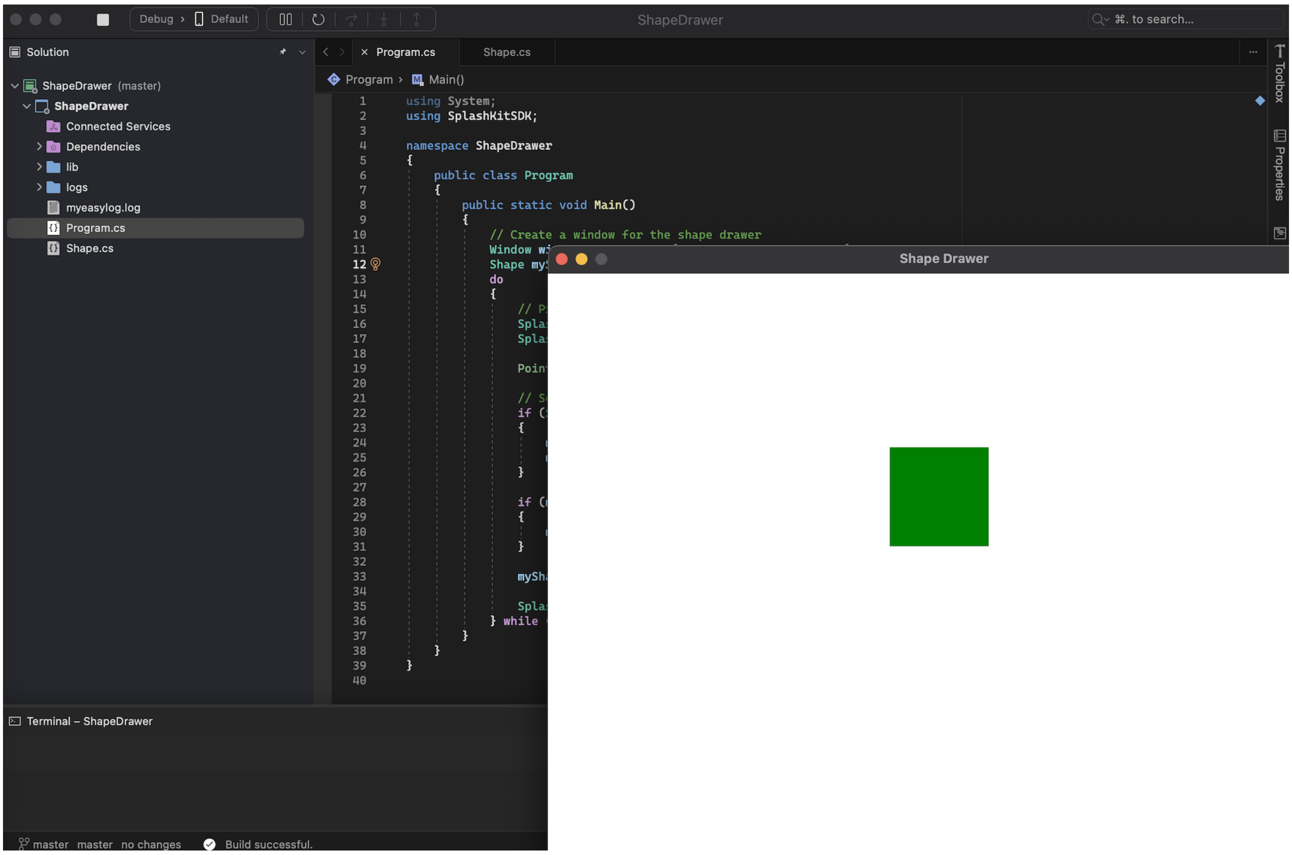
        public float Y
        {
            get { return _y; }
            set { _y = value; }
        }

        public int Width
        {
            get { return _width; }
            set { _width = value; }
        }

        public int Height
        {
            get { return _height; }
            set { _height = value; }
        }

        public void Draw()
        {
            SplashKit.FillRectangle(_color, _x, _y, _width, _height);
        }
        // Check if a point is within the boundaries of the shape
        public bool IsAt(Point2D pt)
        {

            if (_x < pt.X && pt.X < (_x + _width) && _y < pt.Y && pt.Y < (_y + _height))
            {
                return true;
            }
            else
            {
                return false;
            }
        }
    }
}
```



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            {
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                // S
                if (
                {


                }

                if (
                {

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            } while
        }
    }
}
```

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