Swinburne University of Technology

COS20007 Object Oriented Programming

# Drawing Program - A Basic Shape

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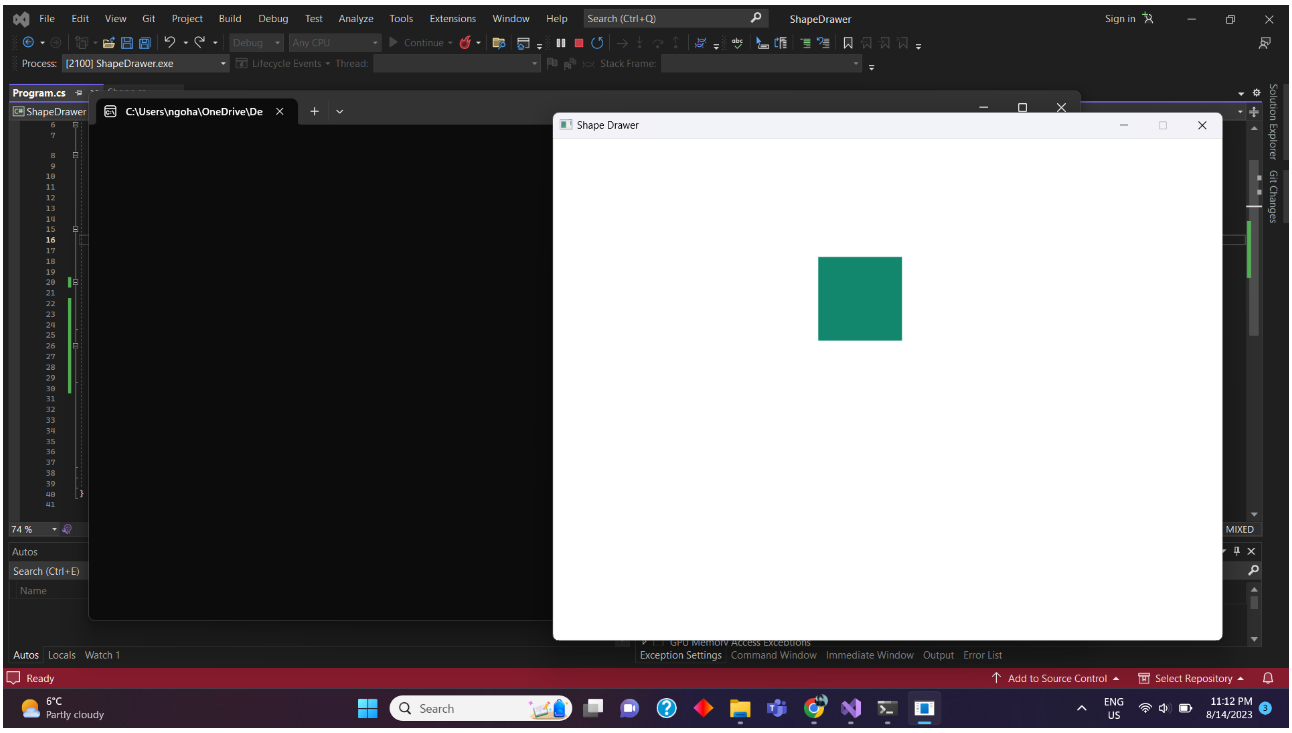
```
using System;
using SplashKitSDK;

namespace ShapeDrawer
{
    public class Program
    {
        public static void Main()
        {
            Window window = new Window("Shape Drawer", 800, 600);

            //create a new Shape object
            Shape myShape = new Shape();

            do
            {
                SplashKit.ProcessEvents();

                //check if the left mouse is clicked
                if (SplashKit.MouseClicked(MouseButton.LeftButton))
                {
                    myShape.X = SplashKit.MouseX();
                    myShape.Y = SplashKit.MouseY();
                }

                if (myShape.IsAt(SplashKit.MousePosition()) &&
 ↪  SplashKit.KeyTyped(KeyCode.SpaceKey))
                {
                    myShape.color = SplashKit.RandomRGBColor(255);
                }

                SplashKit.ClearScreen();

                //draw the shape
                myShape.Draw();

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

```
using SplashKitSDK;
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

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

        public Shape()
        {
            _color = Color.Green;
            _x = 0;
            _y = 0;
            _width = 100;
            _height = 100;
        }

        public void Draw()
        {
            SplashKit.FillRectangle(_color, _x, _y, _width, _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 bool IsAt(Point2D pt)
        {
            // Check if the point (pt) is within the shape's boundaries
            // Compare the X and Y values of the point with the shape's X, Y, width, and height
            if (pt.X >= _x && pt.X <= _x + _width && pt.Y >= _y && pt.Y <= _y + _height)
            {
                return true;
            }
            else
            {
                return false;
            }
        }
    }
}
```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