COS20007 - Object Oriented Programming

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2.3P - Drawing Basic Shapes with your own attributes

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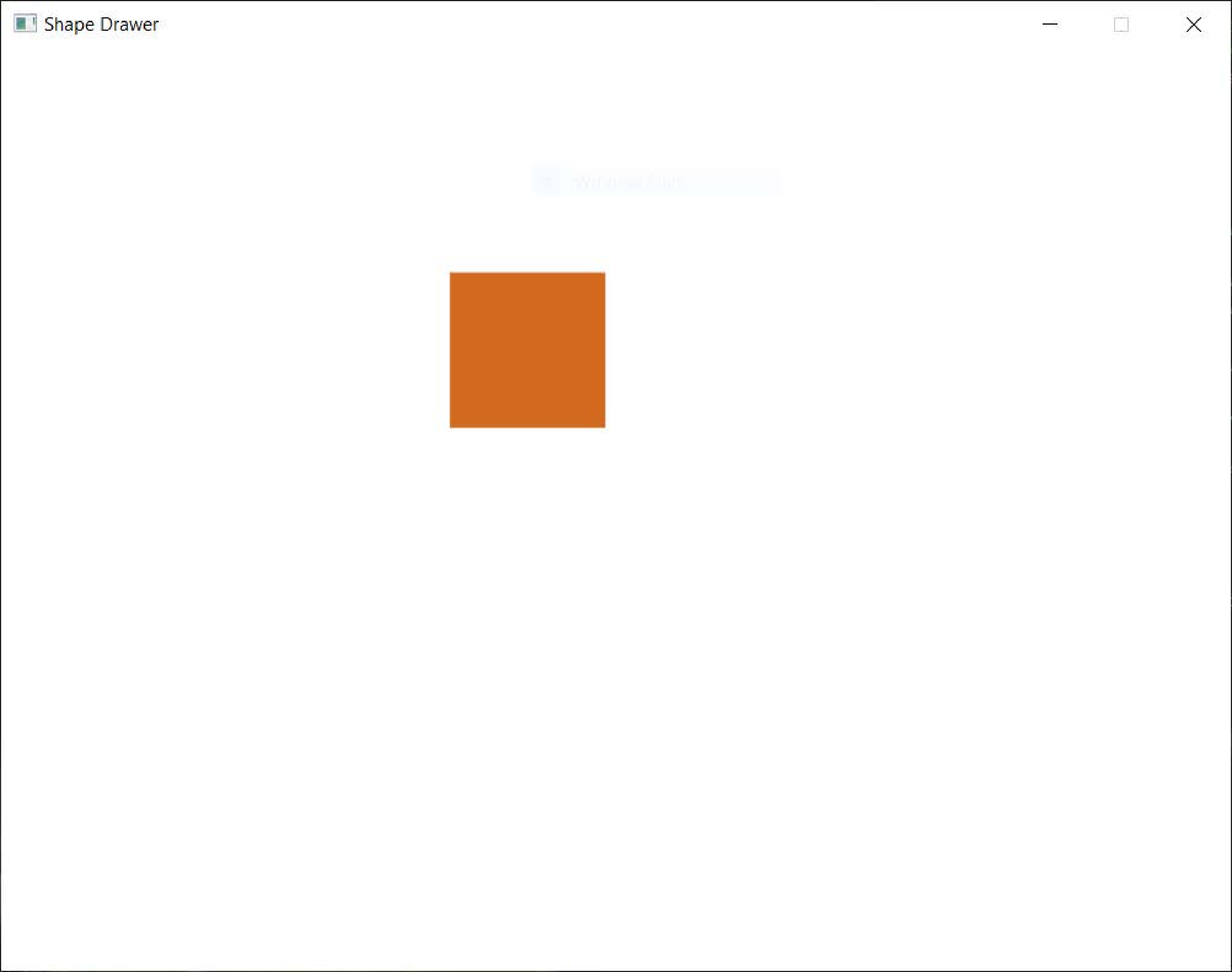
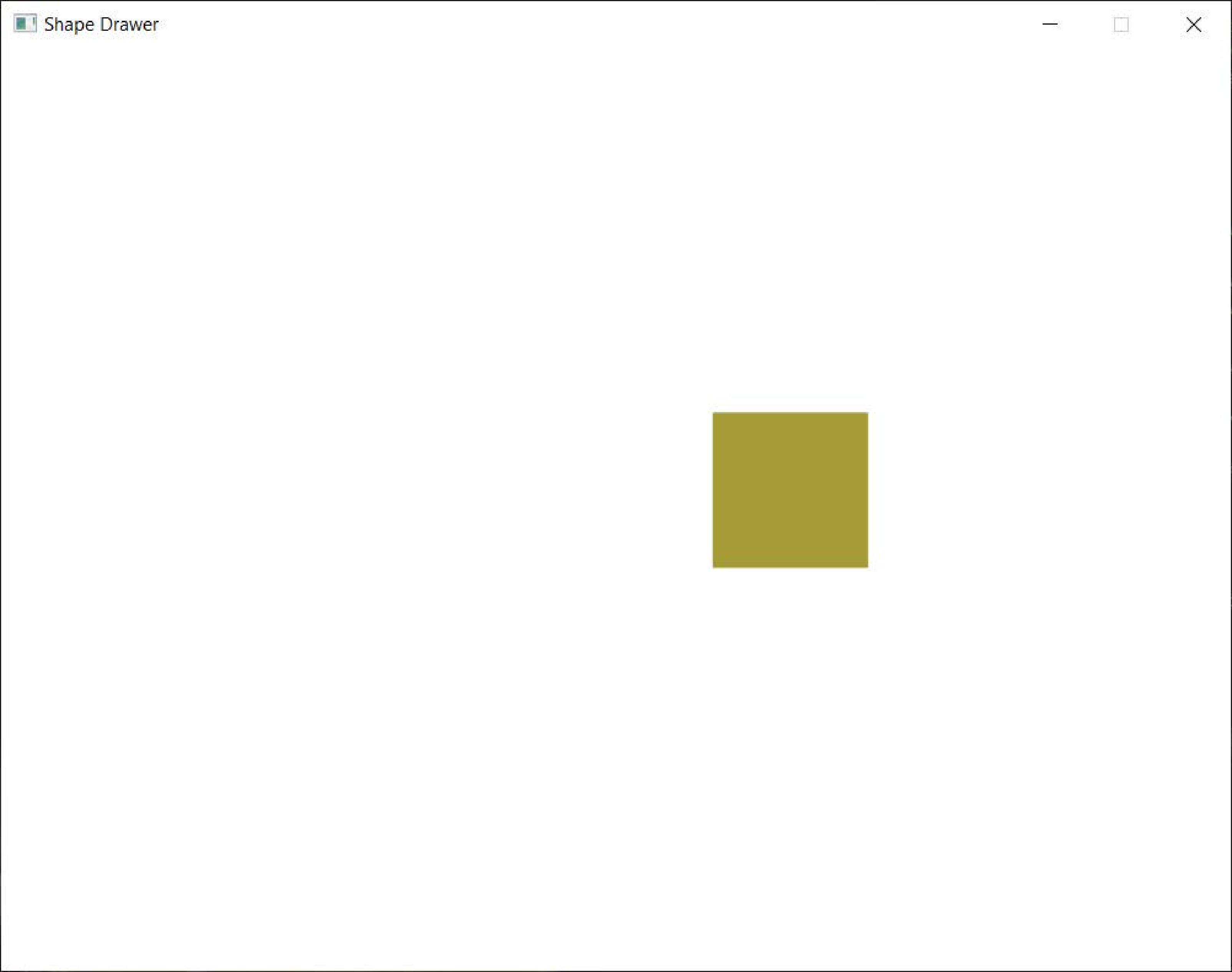
```
using System;
using SplashKitSDK;

namespace ShapeDrawer
{
    public class Program
    {
        public static void Main()
        {
            //the first Shape is the type of object, which is the class i've   ↩
              made earlier
            Shape myShape = new Shape(); //Shape() to call the constructor
            Window window = new Window("Shape Drawer", 800, 600);
            do
            {
                SplashKit.ProcessEvents();
                SplashKit.ClearScreen();

                if(SplashKit.MouseClicked(MouseButton.LeftButton))
                {
                    myShape.X = SplashKit.MouseX();
                    myShape.Y = SplashKit.MouseY();
                }
                if (myShape.IsAt(SplashKit.MousePosition()))
                {
                    if (SplashKit.KeyDown(KeyCode.SpaceKey))
                    {
                        myShape.FillColor = Color.RandomRGB(255);
                    }
                }
                myShape.Draw();
                SplashKit.RefreshScreen();
            } while (!window.CloseRequested);
        }
    }
}
```

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Security.Cryptography.X509Certificates;
using System.Text;
using System.Threading.Tasks;
using SplashKitSDK;

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

        public Shape() //Constructor
        {
            _color = Color.Chocolate;
            _x = _y = 0.0f;
            _width = _height = 101;
        }

        //Properties
        public Color FillColor
        {
            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 void Draw()
        {
            SplashKit.FillRectangle(_color, _x, _y, _width, _height);
        }

        public bool IsAt(Point2D point)
        {
            return SplashKit.PointInRectangle(point, SplashKit.RectangleFrom(
              X, Y, _width, _height));
        }

    }
}
```


Shape Drawer
Window Rule


Shape Drawer