Swinburne University of Technology

Object Oriented Programming (2022 S1)

Doubtfire Submission

Task 2.2P: Drawing Program - A Basic Shape

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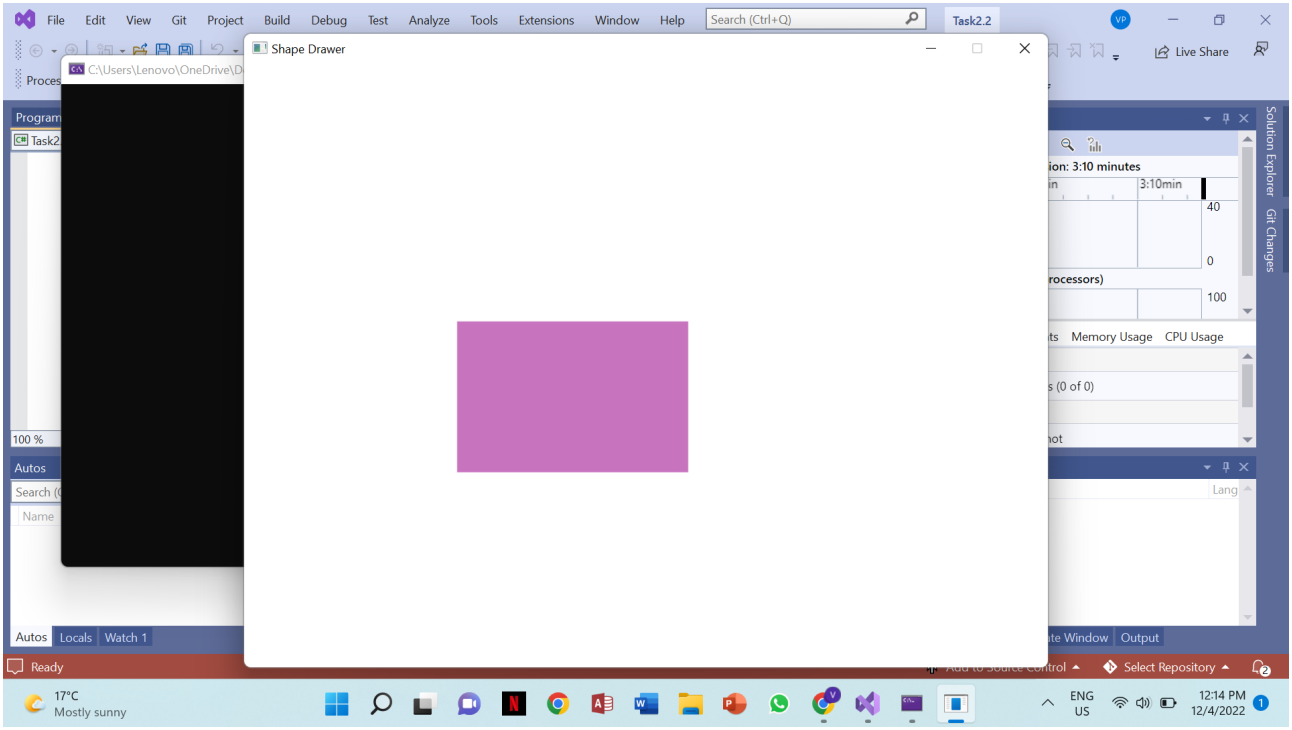
```
using System;
using SplashKitSDK;
using Task2._2;

namespace ShapeDrawer
{
    public class Program
    {
        public static void Main()
        {

            new Window("Shape Drawer", 800, 600);
            Shape myShape = new Shape();

            do
            {
                SplashKit.ProcessEvents();
                SplashKit.ClearScreen();

                myShape.Draw();


                if (SplashKit.MouseClicked(MouseButton.LeftButton))
                {
                    myShape.X = SplashKit.MouseX();
                    myShape.Y = SplashKit.MouseY();
                }

                if (myShape.IsAt(SplashKit.MousePosition()))

                {
                    if (SplashKit.KeyTyped(KeyCode.SpaceKey))
                    {
                        myShape.Color= SplashKit.RandomRGBColor(255);
                    }
                }

                //SplashKit.ClearScreen();
                SplashKit.RefreshScreen();
            } while (!SplashKit.WindowCloseRequested("Shape Drawer"));
        }
    }
}
```

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

namespace Task2._2
{
    public class Shape
    {
        private Color _color;
        private float _x, _y;
        private int _width, _height;

        public Shape() //contructor can only return the reference of the obj
        {
            _color = Color.Green;
            _x = 0;
            _y = 0;
            _width = 230;
            _height = 150;
        }

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

        public float X
        {
            get { return _x; }

            set { _x = value; }
        }


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

        }


        public float Y
        {
            get { return _y; }

            set { _y = value; }
        }

        public int Height
```

```
54          {
55              get { return _height; }
56              set { _height = value; }
57          }
58          public int Width {
59              get { return _width; }
60              set { _width = value; }
61          }
62
63
64          public bool IsAt(Point2D point)
65          {
66              if (point.X >= _x && point.X <= +_width && point.Y >= _x && +point.Y <=
                ↪  _y + _height)
67              {
68                  return true;
69              }
70              return false;
71          }
72          }
73
74
75      }
```


Shape Drawer
Ready
Mostly sunny
17°C
ENG
US
12:14 PM
12/4/2022