2.3 shapedrawer

source codes
program.cs

```
using System;
using SplashKitSDK;


namespace shapedrawer
{
   public class Program
   {



      public static void Main()
      {
         Window window = new Window("Shape Drawer", 800, 600);
         shape myShape = new shape //this is for the red box which has a dimension of 200x150 at (100,100)
         { //also move myShape into a new var which is shape
            Color = Color.Green,
            X = 0.0f,
            Y = 0.0f,
            Width = 100,
            Height = 100
         };


         do
         {
```

```
            SplashKit.ProcessEvents();
            SplashKit.ClearScreen();

            myShape.Draw();

            if (SplashKit.MouseClicked(MouseButton.LeftButton)) //if function
            {



               Point2D pt = SplashKit.MousePosition(); //mouse hover position


               if (myShape.IsAt(pt)) //call back the function which
               { //IF the mouse clicked is ON the shape then display as given
                  Console.WriteLine($"Mouse is over the shape ({pt.X}, {pt.Y})!"); //if hover over the shape then show text as displayed
               } //use $ to call a variable to display
               else //IF the mouse clicked is not within the shape dimension then Display as given
               {
                  Console.WriteLine($"Mouse is outside the shape ({pt.X}, {pt.Y})");
               }
               //placing the it under the mouseleft so when clicked will find a new coords and move object
               myShape.X = (float)pt.X; //(float) for coords and find the new height Y coords
               myShape.Y = (float)pt.Y;//(float) for coords and find the new height Y coords
            }
            if (SplashKit.KeyTyped(KeyCode.SpaceKey))
            {
               Point2D mousePos = SplashKit.MousePosition();
```

```
            if (myShape.IsAt(mousePos)) //identify box position
            {
                myShape.Color = SplashKit.RandomColor(); //if cursor is on the box then when clicked spacebar it will change color
            }
        }
        myShape.Draw();

        SplashKit.RefreshScreen();
    } while (!window.CloseRequested);
  }
 }
}
//when declare a new function do NOT place it in the same function as prev or else the function wouldnt as its not the main father function
```

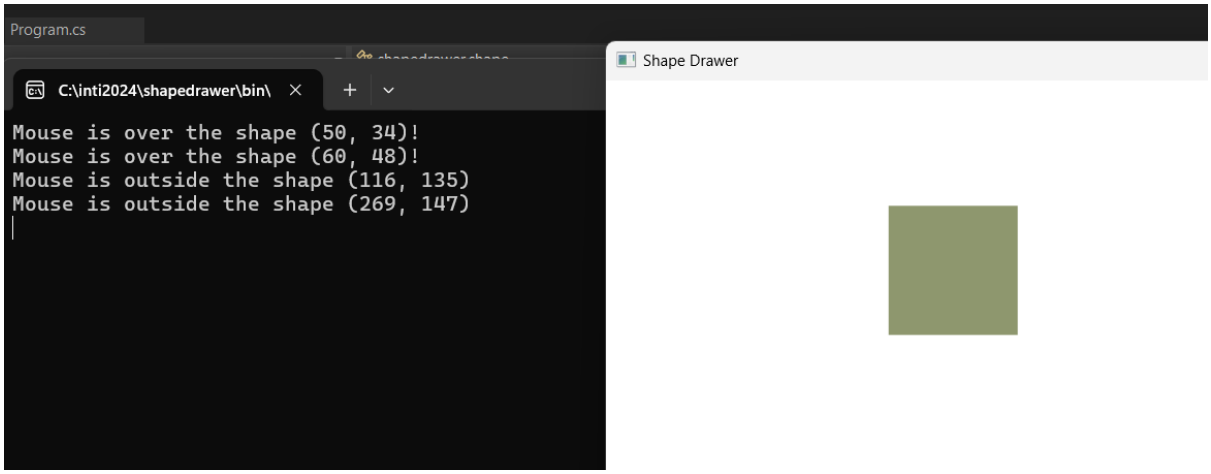
Shape.cs

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

namespace shapedrawer
{
  internal class shape
  {
    // Private fields
    private Color _color;
```

```
private float _x, _y;
private float _width, _height;

// Properties
public Color Color //call and intialize the variable
{
   get { return _color; }
   set { _color = value; }
}

public float X //call and intialize the variable
{
   get { return _x; } //get and store the x value
   set { _x = value; }
}

public float Y //call and intialize the variable
{
   get { return _y; } //get and store the y value
   set { _y = value; }
}

public float Width //call and intialize the variable
{
   get { return _width; } //get and store the width
   set { _width = value; }
}
```

```
    public float Height //call and intialize the variable
    {
        get { return _height; } //get and store the height
        set { _height = value; }
    }

    // Method to draw the shape
    public void Draw()
    {
        SplashKit.FillRectangle(_color, _x, _y, _width, _height);
    }

    // Method to check if a point is within the shape's area
    public bool IsAt(Point2D point)
    {
        return (point.X >= _x && point.X <= _x + _width) &&
               (point.Y >= _y && point.Y <= _y + _height); // to find the coord after or below a specify point
    }//if x is more than equal to x and x is less than equal to x+ width is to find the whole width dimension of the box
  }
}
```

Output



when spacebar will change color