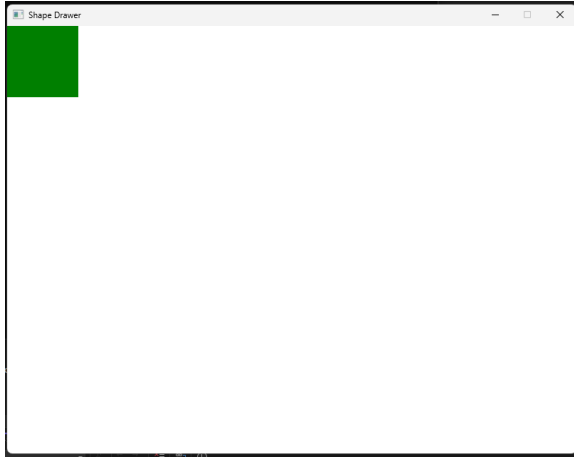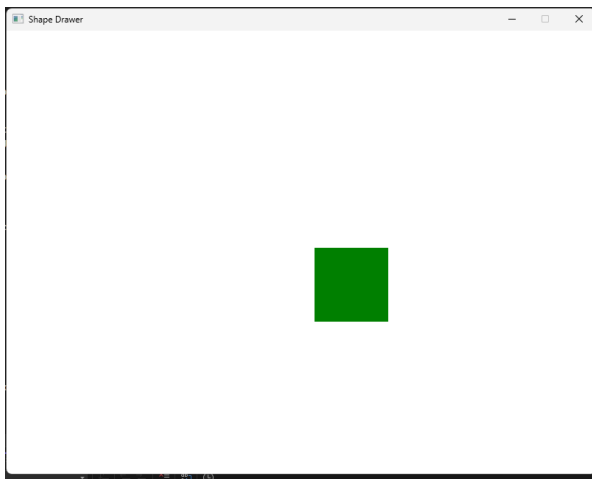# 2.3P - Drawing Program - A Basic Shape
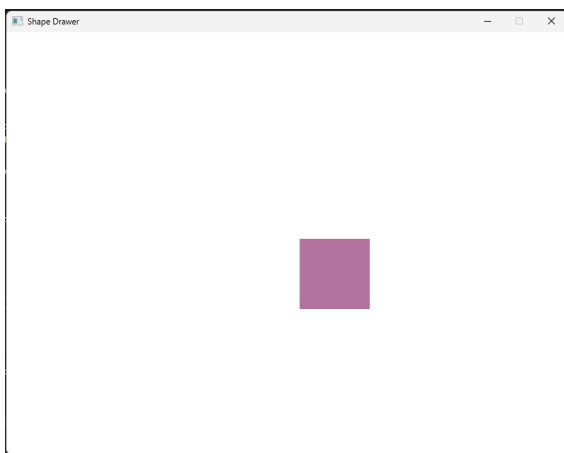
Jayden Kong, 104547242

Shape initial position and colour:

Moving shape by clicking in different area:

Changing colour of shape when spacebar is pressed, and mouse cursor is within shape boundaries:

```csharp
1  using System;
2  using SplashKitSDK;
3  namespace ShapeDrawer
4  {
5      public class Program
6      {
7          public static void Main()
8          {
9              Window window = new Window("Shape Drawer", 800, 600);
10             Shape myShape = new Shape();
11
12             do
13             {
14                 SplashKit.ProcessEvents();
15                 SplashKit.ClearScreen();
16                 myShape.Draw();
17
18                 if (SplashKit.MouseClicked(MouseButton.LeftButton))
19                 {
20                     myShape.X = SplashKit.MouseX();
21                     myShape.Y = SplashKit.MouseY();
22                 }
23
24                 if ((SplashKit.KeyTyped(KeyCode.SpaceKey)) &&
                       (myShape.IsAt(SplashKit.MousePosition())))
25                 {
26                     myShape.Color = SplashKit.RandomColor();
27                 }
28
29                 SplashKit.RefreshScreen();
30             } while (!window.CloseRequested);
31         }
32     }
33 }
34
```

```csharp
1  using System;
2  using System.Collections.Generic;
3  using System.Linq;
4  using System.Text;
5  using System.Threading.Tasks;
6  using SplashKitSDK;
7
8  namespace ShapeDrawer
9  {
10     public class Shape
11     {
12         private Color _color;
13         private float _x;
14         private float _y;
15         private int _width;
16         private int _height;
17
18         public Color Color
19         {
20             get
21             {
22                 return _color;
23             }
24             set
25             {
26                 _color = value;
27             }
28         }
29
30         public float X
31         {
32             get
33             {
34                 return _x;
35             }
36             set
37             {
38                 _x = value;
39             }
40         }
41
42         public float Y
43         {
44             get
45             {
46                 return _y;
47             }
48             set
49             {
50                 _y = value;
51             }
52         }
53
```

```csharp
54          public int Width
55          {
56              get
57              {
58                  return _width;
59              }
60              set
61              {
62                  _width = value;
63              }
64          }
65
66          public int Height
67          {
68              get
69              {
70                  return _height;
71              }
72              set
73              {
74                  _height = value;
75              }
76          }
77
78          public Shape()
79          {
80              _color = SplashKit.ColorGreen();
81              _x = 0.0f;
82              _y = 0.0f;
83              _width = 100;
84              _height = 100;
85          }
86
87          public void Draw()
88          {
89              SplashKit.FillRectangle(_color, _x, _y, _width, _height);
90          }
91
92          public bool IsAt(Point2D pt)
93          {
94              if ((pt.X >= X) && (pt.X <= _x + _width) && (pt.Y >= _y) &&
                    (pt.Y <= _y + _height))
95              {
96                  return true;
97              }
98              else
99              {
100                 return false;
101             }
102         }
103     }
104 }
105
```