## Program.cs

```
using SplashKitSDK;
using ShapeDrawer3;

namespace ShapeDrawer3
{
    public class Program
    {
        private enum ShapeKind
        {
            Rectangle,
            Circle,
            Line
        }
        public static void Main()
        {
            Window window = new("Shape Drawer", 800, 600);

            Drawing myDrawing = new();

            ShapeKind kindtoAdd = ShapeKind.Rectangle;

            do
            {
                SplashKit.ProcessEvents();

                if (SplashKit.KeyDown(KeyCode.SpaceKey))
                {
                    myDrawing.Background = Color.Random();
                }

                if (SplashKit.KeyTyped(KeyCode.RKey))
                {
                    kindtoAdd = ShapeKind.Rectangle;
                }
                else if (SplashKit.KeyTyped(KeyCode.CKey))
                {
                    kindtoAdd = ShapeKind.Circle;
                }
                else if (SplashKit.KeyTyped(KeyCode.LKey))
                {
                    kindtoAdd = ShapeKind.Line;
                }

                if (SplashKit.MouseClicked(MouseButton.LeftButton))
                {
                    Shape newShape;

                    switch (kindtoAdd)
                    {
                        case ShapeKind.Circle:
                            newShape = new MyCircle
                            {
                                X = SplashKit.MouseX(),
                                Y = SplashKit.MouseY()
                            };
                            break;
                        case ShapeKind.Line:
                            newShape = new MyLine
                            {
                                X = SplashKit.MouseX(),
                                Y = SplashKit.MouseY()
                            };
                            break;

                        default:
                            newShape = new MyRectangle
                            {
                                X = SplashKit.MouseX(),
                                Y = SplashKit.MouseY()
                            };
                            break;
                    }
                    myDrawing.AddShape(newShape);
                }

                if (SplashKit.KeyDown(KeyCode.DeleteKey) ||
SplashKit.KeyDown(KeyCode.BackspaceKey))
                {
                    myDrawing.RemoveShapes();
                }

                if (SplashKit.MouseClicked(MouseButton.RightButton))
                {
                    myDrawing.SelectShapeAt(SplashKit.MousePosition());
                }

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

## Shape.cs

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


namespace ShapeDrawer3
{
    public abstract class Shape(Color color)
    {
        private Color _color = color;
        private float _x, _y;
        private bool _selected;
        public Shape() : this(Color.Yellow)
        {
        }

        public float X
        {
            get
            {
                return _x;
            }
            set
            {
                _x = value;
            }
        }

        public float Y
        {
            get
            {
                return _y;
            }
            set
            {
                _y = value;
            }
        }
        public Color Color
        {
            get
            {
                return _color;
            }
            set
            {
                _color = value;
            }
        }

        public bool Selected
        {
            get
            {
                return _selected;
            }
            set
            {
                _selected = value;
            }
        }

        public abstract void Draw();

        public abstract void DrawOutLine();

        public abstract bool IsAt(Point2D pt);
    }
}
```

## Drawing.cs

```
using System.Collections.Generic;
using System.Drawing;
using System.Linq;
using System.Reflection;
using ShapeDrawer3;
using SplashKitSDK;

namespace ShapeDrawer3
{
    public class Drawing(SplashKitSDK.Color background)
    {
            public Drawing() : this(SplashKitSDK.Color.White)
            {

            }

            private readonly List<Shape> _shapes = [];

            public List<Shape> SelectedShape()
            {
                List<Shape> _selectedShapes = [];
                foreach (Shape s in _shapes)
                {
                    if (s.Selected)
                    {
                        _selectedShapes.Add(s);
                    }
                }
                return _selectedShapes;
            }

            public int ShapeCount
            {
                get { return _shapes.Count; }
            }

            private SplashKitSDK.Color _background = background;

            public SplashKitSDK.Color Background
            {
                get
                {
                    return _background;
                }
                set
                {
                    _background = value;
                }
            }
            public void Draw()
            {
                SplashKit.ClearScreen(_background);
                foreach (Shape shape in _shapes)
                {
                    shape.Draw();
                }
            }
            public void SelectShapeAt(Point2D pt)
            {
                foreach (Shape s in _shapes)
                {
                    if (s.IsAt(pt))
                        s.Selected = true;
                    else
                        s.Selected = false;
                }
            }

            public void AddShape(Shape shape)
            {
                _shapes.Add(shape);
            }

            public void RemoveShapes()
            {
                foreach (Shape s in _shapes.ToList())
                {
                    if (s.Selected)
                    {
                        _shapes.Remove(s);
                    }
                }
            }
        }
    }
```

## MyRectangle.cs

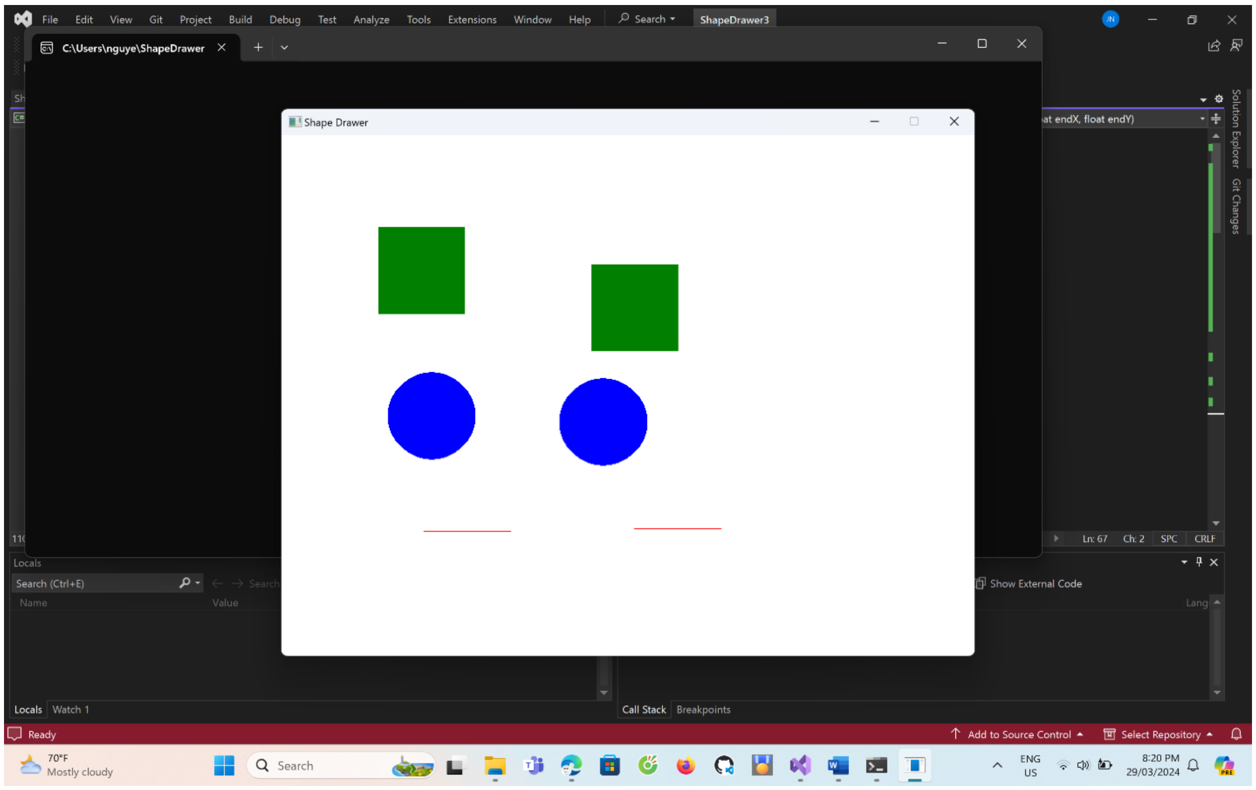
```
using ShapeDrawer3;
using SplashKitSDK;

namespace ShapeDrawer3
{
    public class MyRectangle : Shape
    {
        private int _width, _height;

        public MyRectangle() : this(Color.Green, 0.0f, 0.0f, 100, 100)
        {

        }

        public MyRectangle(Color color, float x, float y, int width, int height) :
base(color)
        {
            X = x;
            Y = y;
            Width = width;
            Height = height;
        }

        public int Width
        {
            get
            {
                return _width;
            }
            set
            {
                _width = value;
            }
        }

        public int Height
        {
            get
            {
                return _height;
            }
            set
            {
                _height = value;
            }
        }

        public override void Draw()
        {
            if (Selected)
            {
                DrawOutLine();
            }
            SplashKit.FillRectangle(Color, X, Y, _width, _height);
        }

        public override void DrawOutLine()
        {
            SplashKit.DrawRectangle(Color.Black, X - 2, Y - 2, _width + 4, _height +
4);
        }

        public override bool IsAt(Point2D pt)
        {
            return pt.X >= X && pt.X < X + _width && pt.Y >= Y && pt.Y <= Y +
_height;
        }
    }
}
```

## MyCircle.cs

```
using ShapeDrawer3;
using SplashKitSDK;

namespace ShapeDrawer3
{
    public class MyCircle : Shape
    {
        private int _radius;

        public MyCircle() : this(Color.Blue, 0.0f, 0.0f, 50)
        {
        }

        public MyCircle(Color color, float x, float y, int radius) : base(color)
        {
            X = x;
            Y = y;
            Radius = radius;
        }

        public int Radius
        {
            get
            {
                return _radius;
            }
            set
            {
                _radius = value;
            }
        }

        public override void Draw()
        {
            if (Selected)
            {
                DrawOutLine();
            }
            SplashKit.FillCircle(Color, X, Y, _radius);
        }

        public override void DrawOutLine()
        {
            SplashKit.DrawCircle(Color.Black, X, Y, _radius + 2);
        }

        public override bool IsAt(Point2D pt)
        {
            return SplashKit.PointInCircle(pt, SplashKit.CircleAt(X, Y, _radius));
        }
    }
}
```

## MyLine.cs

```
using SplashKitSDK;

namespace ShapeDrawer3
{
    public class MyLine : Shape
    {
        private float _endX;
        private float _endY;


        public MyLine() : this(Color.Red, 0, 0, 100, 0)
        {
        }
        public MyLine(Color color, float startX, float startY, float endX, float
endY)
        {
            Color = color;
            X = startX;
            Y = startY;
            EndX = endX;
            EndY = endY;
        }

        public float EndX
        {
            get
            {
                return _endX;
            }
            set
            {
                _endX = value;
            }
        }
        public float EndY
        {
            get
            {
                return _endY;
            }
            set
            {
                _endY = value;
            }
        }

        public override void Draw()
        {
            if (Selected)
            {
                DrawOutLine();
            }
            SplashKit.DrawLine(Color, X, Y, X + _endX, Y + _endY);
        }

        public override void DrawOutLine()
        {
            SplashKit.FillCircle(Color.Black, X, Y, 5);
            SplashKit.FillCircle(Color.Black, X + _endX, Y + _endY, 5);
        }

        public override bool IsAt(Point2D pt)
        {
            return SplashKit.PointOnLine(pt, SplashKit.LineFrom(X, Y, X + _endX, Y +
_endY));
        }
    }
}
```


Shape Drawer
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ShapeDrawer3
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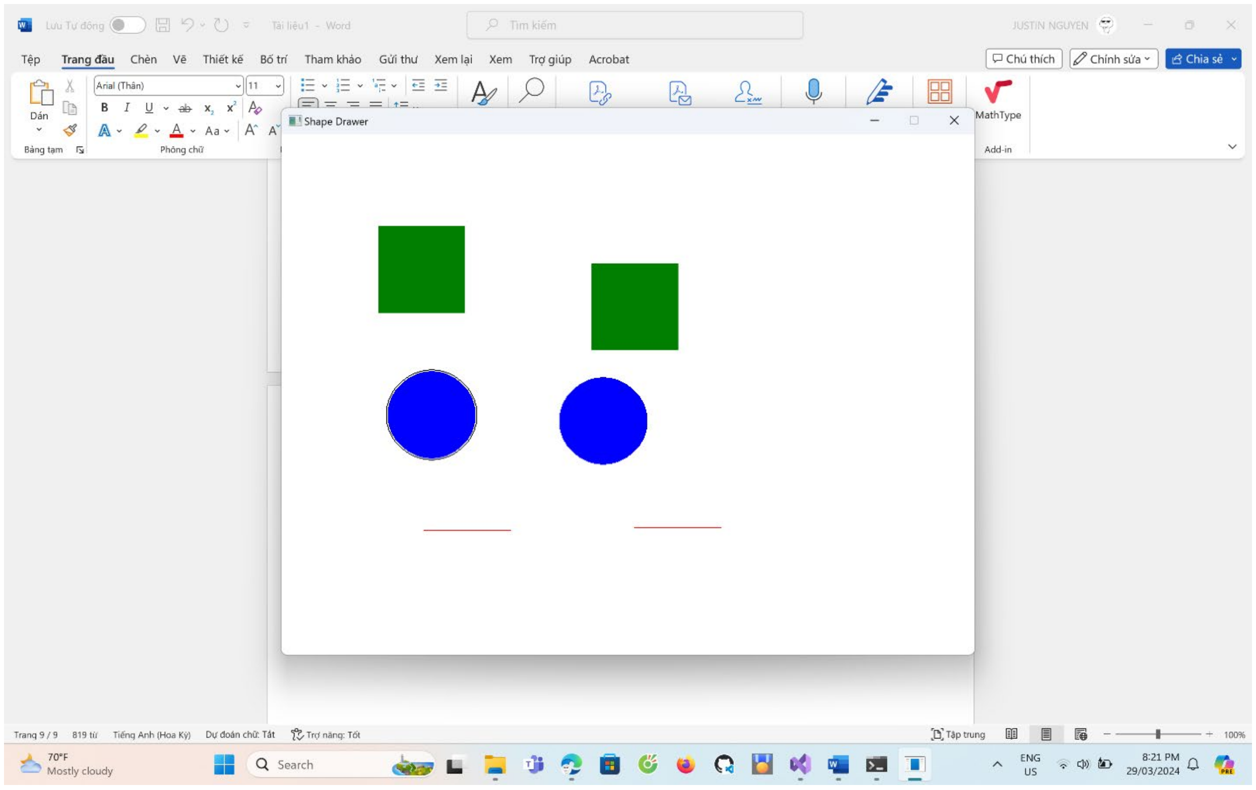
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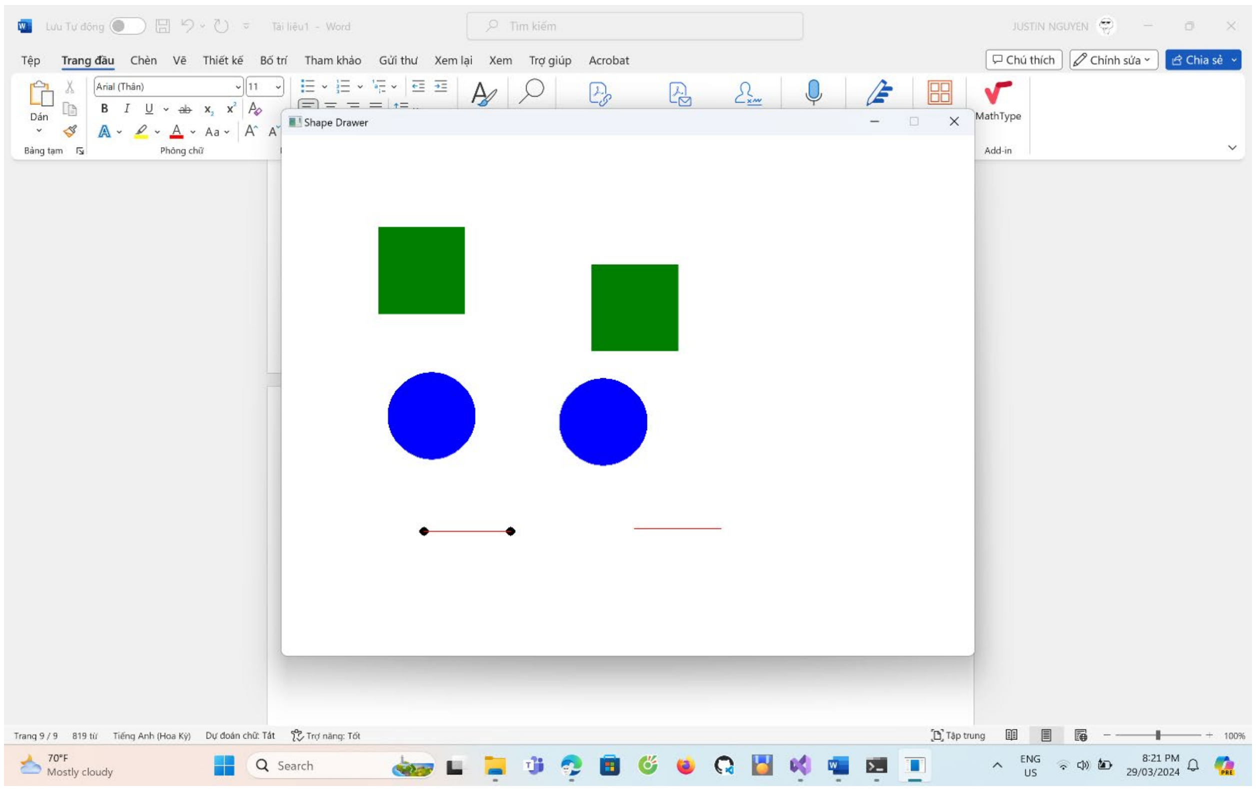
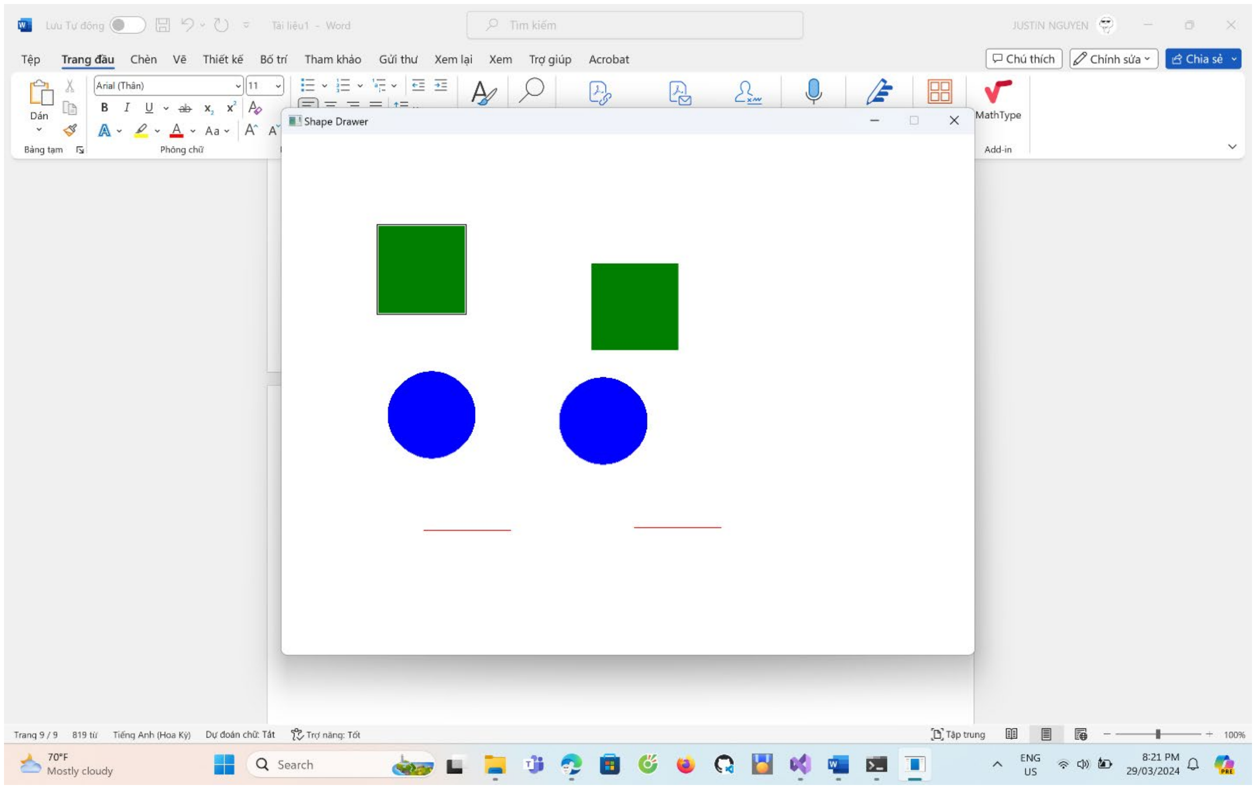
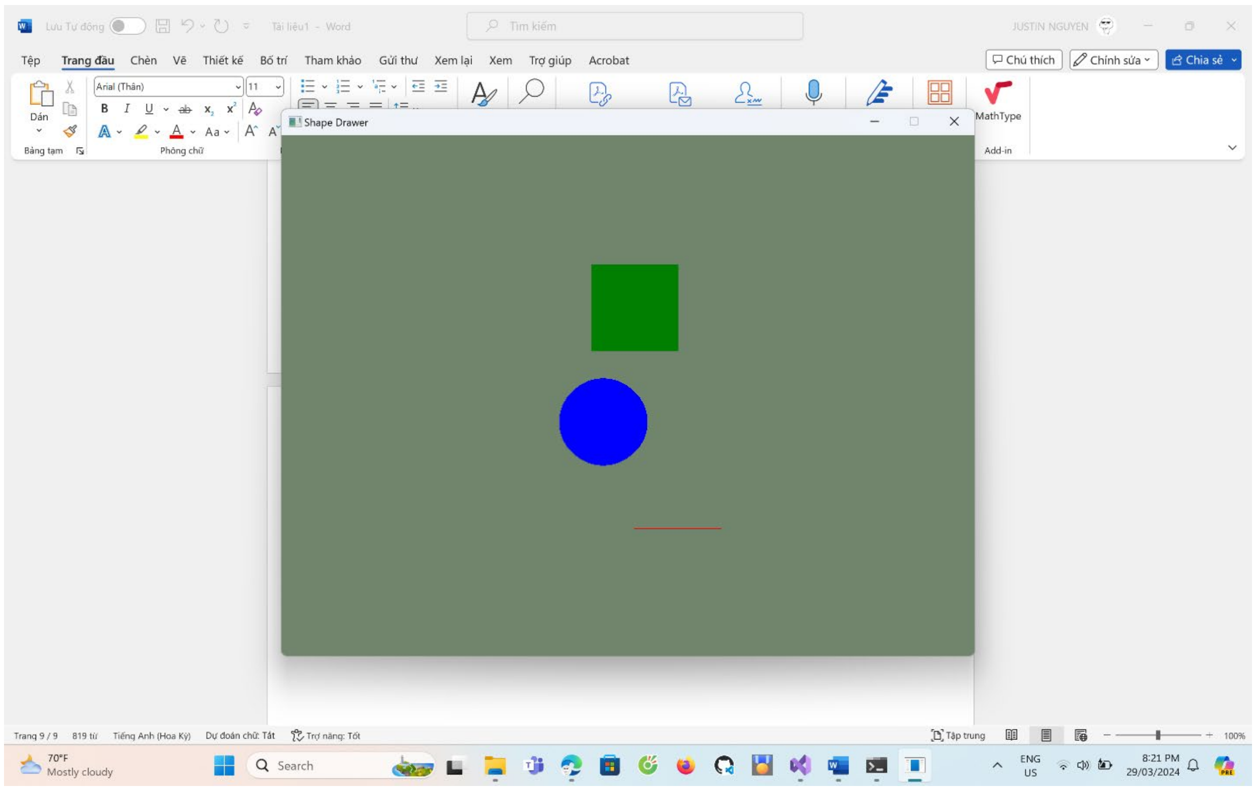

Shape Drawer


Shape Drawer


Shape Drawer
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