

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

namespace ShapeDrawing
{
    public class MyLine : Shape
    {
        //Set attributes
        private double _angle;
        private int _length;
        private static int _lineCount = 0;
        //Set constructors and methods
        public MyLine(Color color, int length) : base(color)
        {
            this.Color = color; //Change this line allowing changing line colors
            _length = length;
            double[] angles = { 0, 10, 20, 30, 40 };
            _angle = angles[_lineCount % angles.Length];
            _lineCount++;
        }
        public MyLine() : this(Color.White, 200) { }
        public int Length
        {
            get => _length;
            set => _length = value;
        }
        public override void Draw()
        {
            double radians = DegreesToRadians(_angle);
            double endX = X + _length * Math.Cos(radians);
            double endY = Y + _length * Math.Sin(radians);
            SplashKit.DrawLine(Color, X, Y, endX, endY);
            if (Selected)
            {
                this.DrawOutline();
            }
            //Add this new line
            SplashKit.DrawLine(Color, X, Y, endX, endY);
        }
        private double DegreesToRadians(double degrees)
        {
            return degrees * (Math.PI / 180.0);
        }
        public override bool IsAt(Point2D point)
```

```
{
    double radians = DegreesToRadians(_angle);
    double endX = X + _length * Math.Cos(radians);

    double endY = Y + _length * Math.Sin(radians);
    return SplashKit.PointOnLine(point, SplashKit.LineFrom(X, Y, endX,
        endY));
}

public override void DrawOutline()
{
    double radians = DegreesToRadians(_angle);
    double endX = X + _length * Math.Cos(radians);
    double endY = Y + _length * Math.Sin(radians);
    SplashKit.DrawCircle(Color.Black, X, Y, 3);
    SplashKit.DrawCircle(Color.Black, endX, endY, 3);
}

//Step 8 of task 5.3C
public override void SaveTo(StreamWriter writer)
{
    writer.WriteLine("Line");
    base.SaveTo(writer);
    writer.WriteLine(Length);
}

//Step 15 of task 5.3C
public override void LoadFrom(StreamReader reader)
{
    base.LoadFrom(reader);
    Length = reader.ReadInteger();
}
}
```