# [KingSchlock](https://github.com/KingSchlock) / [**COS20007**](https://github.com/KingSchlock/COS20007)

**Public**

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**main**

[**COS20007**](https://github.com/KingSchlock/COS20007) / [5.2C-Complete](https://github.com/KingSchlock/COS20007/tree/main/5.2C-Complete) / **ExtensionMethods.cs** / Jump to



**1** contributor

[**KingSchlock**](https://github.com/KingSchlock) [Add files via upload](https://github.com/KingSchlock/COS20007/commit/aa32b217e2b9e42a7cfd53235ced8222f6677fa6)

|  |  |
| --- | --- |
| 33 lines (29 sloc) 913 Bytes | |
| 1 | using System; |
| 2 | using System.Collections.Generic; |
| 3 | using System.Linq; |
| 4 | using System.Text; |
| 5 | using System.Threading.Tasks; |
| 6 | using System.IO; |
| 7 | using SplashKitSDK; |
| 8 |  |
| 9 | namespace \_5.\_2C\_Not\_Complete |
| 10 | { |
| 11 | public static class ExtensionMethods |
| 12 | { |
| 13 | public static int ReadInteger(this StreamReader reader) |
| 14 | { |
| 15 | return Convert.ToInt32(reader.ReadLine()); |
| 16 | } |
| 17 |  |
| 18 | public static float ReadSingle(this StreamReader reader) |
| 19 | { |
| 20 | return Convert.ToSingle(reader.ReadLine()); |
| 21 | } |
| 22 |  |
| 23 | public static Color ReadColor(this StreamReader reader) |
| 24 | { |
| 25 | return Color.RGBColor(reader.ReadSingle(), reader.ReadSingle(), reader.ReadSingle( |
| 26 | } |
| 27 |  |
| 28 | public static void WriteColor(this StreamWriter writer, Color color) |
| 29 | { |
| 30 | writer.WriteLine("{0}\n{1}\n{2}", color.R, color.G, color.B); |
| 31 | } |
| 32 | } |

33 }

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**main**

[**COS20007**](https://github.com/KingSchlock/COS20007) / [5.2C-Complete](https://github.com/KingSchlock/COS20007/tree/main/5.2C-Complete) / **Shape.cs** / Jump to



**1** contributor

[**KingSchlock**](https://github.com/KingSchlock) [Add files via upload](https://github.com/KingSchlock/COS20007/commit/aa32b217e2b9e42a7cfd53235ced8222f6677fa6)

|  |  |
| --- | --- |
| 84 lines (69 sloc) 2.09 KB | |
| 1 | using SplashKitSDK; |
| 2 | using System.IO; |
| 3 |  |
| 4 | namespace \_5.\_2C\_Not\_Complete |
| 5 | { |
| 6 | public abstract class Shape |
| 7 | { |
| 8 | //! Field Declerations |
| 9 | private Color \_color; |
| 10 | private float \_x, \_y; |
| 11 | private bool \_selected; |
| 12 |  |
| 13 | //! Constructors |
| 14 | public Shape() |
| 15 | : this(Color.Red, false) |
| 16 | { |
| 17 |  |
| 18 | } |
| 19 |  |
| 20 | public Shape(Color color, bool selected) |
| 21 | { |
| 22 | this.\_color = color; |
| 23 | this.\_selected = selected; |
| 24 | } |
| 25 |  |
| 26 | public Shape(Color color, float x, float y, bool selected) |
| 27 | : this(color, selected) |
| 28 | { |
| 29 | this.\_x = x; |
| 30 | this.\_y = x; |
| 31 | } |
| 32 |  |

|  |  |  |  |
| --- | --- | --- | --- |
| 33 |  |  |  |
| 34 |  |  | //! Properties |
| 35 |  |  | public Color Color |
| 36 |  |  | { |
| 37 |  |  | get { return this.\_color; } |
| 38 |  |  | set {this.\_color = value; } |
| 39 |  |  | } |
| 40 |  |  |  |
| 41 |  |  | public float X |
| 42 |  |  | { |
| 43 |  |  | get { return this.\_x; } |
| 44 |  |  | set { this.\_x = value; } |
| 45 |  |  | } |
| 46 |  |  |  |
| 47 |  |  | public float Y |
| 48 |  |  | { |
| 49 |  |  | get { return this.\_y; } |
| 50 |  |  | set { this.\_y = value; } |
| 51 |  |  | } |
| 52 |  |  |  |
| 53 |  |  | public bool Selected |
| 54 |  |  | { |
| 55 |  |  | get { return this.\_selected; } |
| 56 |  |  | set { this.\_selected = value; } |
| 57 |  |  | } |
| 58 |  |  |  |
| 59 |  |  | //! Methods |
| 60 |  |  | //? Takes a point and determines if said point lies within our shape |
| 61 |  |  | public abstract bool IsAt(Point2D mouseLocation); |
| 62 |  |  |  |
| 63 |  |  | //? Draws the outline of a rectangle |
| 64 |  |  | public abstract void DrawOutline(); |
| 65 |  |  |  |
| 66 |  |  | //? Draws a Rectangle based on parameters and outlines the rectangle if the shape is s |
| 67 |  |  | public abstract void Draw(); |
| 68 |  |  |  |
| 69 |  |  | //! 5.2C Save and Load functionality |
| 70 |  |  | public virtual void SaveTo(StreamWriter writer) |
| 71 |  |  | { |
| 72 |  |  | writer.WriteColor(Color); |
| 73 |  |  | writer.WriteLine(X); |
| 74 |  |  | writer.WriteLine(Y); //? possible to add selected if you wanted to load that aswel |
| 75 |  |  | } |
| 76 |  |  |  |
| 77 |  |  | public virtual void LoadFrom(StreamReader reader) |
| 78 |  |  | { |
| 79 |  |  | Color = reader.ReadColor(); |
| 80 |  |  | X = reader.ReadInteger(); |
| 81 |  |  | Y = reader.ReadInteger(); |
| 82 |  |  | } |
| 83 |  | } |  |
| 84 | } |  |  |

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**main**

[**COS20007**](https://github.com/KingSchlock/COS20007) / [5.2C-Complete](https://github.com/KingSchlock/COS20007/tree/main/5.2C-Complete) / **MyRectangle.cs** / Jump to



**1** contributor

[**KingSchlock**](https://github.com/KingSchlock) [Add files via upload](https://github.com/KingSchlock/COS20007/commit/aa32b217e2b9e42a7cfd53235ced8222f6677fa6)

|  |  |
| --- | --- |
| 80 lines (68 sloc) 1.97 KB | |
| 1 | using SplashKitSDK; |
| 2 | using System.IO; |
| 3 |  |
| 4 | namespace \_5.\_2C\_Not\_Complete |
| 5 | { |
| 6 | public class MyRectangle : Shape |
| 7 | { |
| 8 | //! Fields |
| 9 | private int \_width, \_height; |
| 10 |  |
| 11 | //! Constructor(s) |
| 12 | public MyRectangle() |
| 13 | { |
| 14 |  |
| 15 | } |
| 16 |  |
| 17 | public MyRectangle(Color color, float x, float y, bool selected, int width, int height |
| 18 | { |
| 19 | \_width = width; |
| 20 | \_height = height; |
| 21 | } |
| 22 |  |
| 23 | //! Properties |
| 24 | public int Width |
| 25 | { |
| 26 | get { return \_width; } |
| 27 | set { \_width = value; } |
| 28 | } |
| 29 |  |
| 30 |  |
| 31 | public int Height |
| 32 | { |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 33 | |  |  | get { return \_height; } | |
| 34 | |  |  | set { \_height = value; } | |
| 35 | |  |  | } | |
| 36 | |  |  |  | |
| 37 | |  |  | //! Method(s) | |
| 38 | |  |  | public override bool IsAt(Point2D mouseLocation) | |
| 39 | |  |  | { | |
| 40 | |  |  | if (X < mouseLocation.X && mouseLocation.X < (X + Width) && Y < mouseLocation.Y && | |
| 41 | |  |  | { | |
| 42 | |  |  | return true; | |
| 43 | |  |  | } | |
| 44 | |  |  | else | |
| 45 | |  |  | { | |
| 46 | |  |  | return false; | |
| 47 | |  |  | } | |
| 48 | |  |  | } | |
| 49 | |  |  | public override void DrawOutline() | |
| 50 | |  |  | { | |
| 51 | |  |  | SplashKit.DrawRectangle(Color.Black, (X - 2), (Y - 2), (Width + 4), (Height + 4)); | |
| 52 | |  |  | } | |
| 53 | |  |  |  | |
| 54 | |  |  | public override void Draw() | |
| 55 | |  |  | { | |
| 56 | |  |  | SplashKit.FillRectangle(Color, X, Y, Width, Height); | |
| 57 | |  |  |  | |
| 58 | |  |  | if (Selected) | |
| 59 | |  |  | { | |
| 60 | |  |  | DrawOutline(); | |
| 61 | |  |  | } | |
| 62 | |  |  | } | |
| 63 | |  |  |  | |
| 64 | |  |  | //! 5.2C Saving and Loading functionality | |
| 65 | |  |  | public override void SaveTo(StreamWriter writer) | |
| 66 | |  |  | { | |
| 67 | |  |  | writer.WriteLine("Rectangle"); | |
| 68 | |  |  | base.SaveTo(writer); | |
| 69 | |  |  | writer.WriteLine(Width); | |
| 70 | |  |  | writer.WriteLine(Height); | |
| 71 | |  |  | } | |
| 72 | |  |  |  | |
| 73 | |  |  | public override void LoadFrom(StreamReader reader) | |
| 74 | |  |  | { | |
| 75 | |  |  | base.LoadFrom(reader); | |
| 76 | |  |  | Width = reader.ReadInteger(); | |
| 77 | |  |  | Height = reader.ReadInteger(); | |
| 78 | |  |  | } | |
| 79 | |  | } |  | |
| 80 | | } |  |  | |
|  |  | | | |  |

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**main**

[**COS20007**](https://github.com/KingSchlock/COS20007) / [5.2C-Complete](https://github.com/KingSchlock/COS20007/tree/main/5.2C-Complete) / **MyCircle.cs** / Jump to



**1** contributor

[**KingSchlock**](https://github.com/KingSchlock) [Add files via upload](https://github.com/KingSchlock/COS20007/commit/aa32b217e2b9e42a7cfd53235ced8222f6677fa6)

|  |  |
| --- | --- |
| 71 lines (60 sloc) 1.76 KB | |
| 1 | using SplashKitSDK; |
| 2 | using System.IO; |
| 3 |  |
| 4 | namespace \_5.\_2C\_Not\_Complete |
| 5 | { |
| 6 | public class MyCircle : Shape |
| 7 | { |
| 8 | //! Fields |
| 9 | private int \_radius; |
| 10 |  |
| 11 | //! Constructor(s) |
| 12 | public MyCircle() |
| 13 | { |
| 14 |  |
| 15 | } |
| 16 |  |
| 17 | public MyCircle(Color color, float x, float y, bool selected, int radius) : base(color |
| 18 | { |
| 19 | this.\_radius = radius; |
| 20 | } |
| 21 |  |
| 22 | //! Properties |
| 23 | public int Radius |
| 24 | { |
| 25 | get { return \_radius; } |
| 26 | set { \_radius = value; } |
| 27 | } |
| 28 |  |
| 29 | //! Method(s) |
| 30 | public override bool IsAt(Point2D mouseLocation) |
| 31 | { |
| 32 | Point2D origin = new() |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 33 | |  |  | { | |
| 34 | |  |  | //Had to set the points or they kept changing with the mouse location, real pr | |
| 35 | |  |  | X = X, | |
| 36 | |  |  | Y = Y | |
| 37 | |  |  | }; | |
| 38 | |  |  |  | |
| 39 | |  |  | Circle circle = SplashKit.CircleAt(origin, \_radius); | |
| 40 | |  |  | return SplashKit.PointInCircle(mouseLocation, circle); | |
| 41 | |  |  | } | |
| 42 | |  |  |  | |
| 43 | |  |  | public override void DrawOutline() | |
| 44 | |  |  | { | |
| 45 | |  |  | SplashKit.DrawCircle(Color.Black, X, Y, (Radius + 2)); | |
| 46 | |  |  | } | |
| 47 | |  |  |  | |
| 48 | |  |  | public override void Draw() | |
| 49 | |  |  | { | |
| 50 | |  |  | SplashKit.FillCircle(Color, X, Y, Radius); | |
| 51 | |  |  | if (Selected) | |
| 52 | |  |  | { | |
| 53 | |  |  | DrawOutline(); | |
| 54 | |  |  | } | |
| 55 | |  |  | } | |
| 56 | |  |  |  | |
| 57 | |  |  | //! 5.2C Saving and Loading functionality | |
| 58 | |  |  | public override void SaveTo(StreamWriter writer) | |
| 59 | |  |  | { | |
| 60 | |  |  | writer.WriteLine("Circle"); | |
| 61 | |  |  | base.SaveTo(writer); | |
| 62 | |  |  | writer.WriteLine(Radius); | |
| 63 | |  |  | } | |
| 64 | |  |  |  | |
| 65 | |  |  | public override void LoadFrom(StreamReader reader) | |
| 66 | |  |  | { | |
| 67 | |  |  | base.LoadFrom(reader); | |
| 68 | |  |  | Radius = reader.ReadInteger(); | |
| 69 | |  |  | } | |
| 70 | |  | } |  | |
| 71 | | } |  |  | |
|  |  | | | |  |

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**main**

[**COS20007**](https://github.com/KingSchlock/COS20007) / [5.2C-Complete](https://github.com/KingSchlock/COS20007/tree/main/5.2C-Complete) / **MyLine.cs** / Jump to



**1** contributor

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|  |  |
| --- | --- |
| 81 lines (67 sloc) 1.92 KB | |
| 1 | using SplashKitSDK; |
| 2 | using System; |
| 3 | using System.IO; |
| 4 |  |
| 5 | namespace \_5.\_2C\_Not\_Complete |
| 6 | { |
| 7 | public class MyLine : Shape |
| 8 | { |
| 9 | //! Fields |
| 10 | private float \_length; |
| 11 |  |
| 12 | //! Constructors |
| 13 | public MyLine() |
| 14 | : this(Color.BlueViolet, 0, 0, false, 150) |
| 15 | { |
| 16 |  |
| 17 | } |
| 18 |  |
| 19 | public MyLine(Color color, float x, float y, bool selected, float length) : base(color |
| 20 | { |
| 21 | this.\_length = length; |
| 22 | } |
| 23 |  |
| 24 | //! Properties |
| 25 | public float Length |
| 26 | { |
| 27 | get { return \_length; } |
| 28 | set { \_length = value; } |
| 29 | } |
| 30 |  |
| 31 |  |
| 32 | //! Methods |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 33 | |  |  | public override bool IsAt(Point2D mouseLocation) |  |
| 34 | |  |  | { |  |
| 35 | |  |  | Point2D initialPoint = new() |  |
| 36 | |  |  | { |  |
| 37 | |  |  | X = X, |  |
| 38 | |  |  | Y = Y |  |
| 39 | |  |  | }; |  |
| 40 | |  |  |  |  |
| 41 | |  |  | Point2D finalPoint = new() |  |
| 42 | |  |  | { |  |
| 43 | |  |  | X = X + Length, |  |
| 44 | |  |  | Y = Y |  |
| 45 | |  |  | }; |  |
| 46 | |  |  |  |  |
| 47 | |  |  | Line line = SplashKit.LineFrom(initialPoint, finalPoint); |  |
| 48 | |  |  | return SplashKit.PointOnLine(mouseLocation, line); |  |
| 49 | |  |  | } |  |
| 50 | |  |  |  |  |
| 51 | |  |  | public override void DrawOutline() |  |
| 52 | |  |  | { |  |
| 53 | |  |  | SplashKit.DrawCircle(Color.GhostWhite, X, Y, 2); |  |
| 54 | |  |  | SplashKit.DrawCircle(Color.GhostWhite, X + Length, Y, 2); |  |
| 55 | |  |  | } |  |
| 56 | |  |  |  |  |
| 57 | |  |  | public override void Draw() |  |
| 58 | |  |  | { |  |
| 59 | |  |  | SplashKit.DrawLine(Color, X, Y, (X + Length), Y); |  |
| 60 | |  |  |  |  |
| 61 | |  |  | if (Selected) |  |
| 62 | |  |  | { |  |
| 63 | |  |  | DrawOutline(); |  |
| 64 | |  |  | } |  |
| 65 | |  |  | } |  |
| 66 | |  |  |  |  |
| 67 | |  |  | //! 5.2C Saving and Loading functionality |  |
| 68 | |  |  | public override void SaveTo(StreamWriter writer) |  |
| 69 | |  |  | { |  |
| 70 | |  |  | writer.WriteLine("Line"); |  |
| 71 | |  |  | base.SaveTo(writer); |  |
| 72 | |  |  | writer.WriteLine(Length); |  |
| 73 | |  |  | } |  |
| 74 | |  |  |  |  |
| 75 | |  |  | public override void LoadFrom(StreamReader reader) |  |
| 76 | |  |  | { |  |
| 77 | |  |  | base.LoadFrom(reader); |  |
| 78 | |  |  | Length = reader.ReadInteger(); |  |
| 79 | |  |  | } |  |
| 80 | |  | } |  |  |
| 81 | | } |  |  |  |
|  |  | | | |  |

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**main**

[**COS20007**](https://github.com/KingSchlock/COS20007) / [5.2C-Complete](https://github.com/KingSchlock/COS20007/tree/main/5.2C-Complete) / **Drawing.cs** / Jump to



**1** contributor

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|  |  |
| --- | --- |
| 154 lines (128 sloc) 3.94 KB | |
| 1 | using System; |
| 2 | using System.Collections.Generic; |
| 3 | using System.IO; |
| 4 | using SplashKitSDK; |
| 5 |  |
| 6 | namespace \_5.\_2C\_Not\_Complete |
| 7 | { |
| 8 | class Drawing |
| 9 | { |
| 10 | //! Fields |
| 11 | private readonly List<Shape> \_shapes; |
| 12 | private Color \_background; |
| 13 |  |
| 14 |  |
| 15 | //! Constructors |
| 16 | //? Default constructor, should draw a white background when initialised. |
| 17 | public Drawing(Color background) |
| 18 | { |
| 19 | \_background = background; |
| 20 | \_shapes = new(); |
| 21 | } |
| 22 |  |
| 23 | public Drawing() |
| 24 | : this(Color.White) |
| 25 | { |
| 26 |  |
| 27 | } |
| 28 |  |
| 29 |  |
| 30 | //! Properties |
| 31 | public Color Background |
| 32 | { |

|  |  |
| --- | --- |
| 33 | get { return \_background; } |
| 34 | set { \_background = value; } |
| 35 | } |
| 36 |  |
| 37 | //? Readonly |
| 38 | public int ShapeCount |
| 39 | { |
| 40 | get { return \_shapes.Count; } |
| 41 | } |
| 42 |  |
| 43 | //? Readonly, adds a selected shape to the selectedShapes array |
| 44 | public List<Shape> SelectedShapes |
| 45 | { |
| 46 | get |
| 47 | { |
| 48 | List<Shape> selectedShapes = new(); |
| 49 |  |
| 50 | foreach(Shape genericShape in \_shapes) |
| 51 | { |
| 52 | if (genericShape.Selected) |
| 53 | { |
| 54 | selectedShapes.Add(genericShape); |
| 55 | } |
| 56 | } |
| 57 | return selectedShapes; |
| 58 | } |
| 59 | } |
| 60 |  |
| 61 | //! Methods and Fields |
| 62 | public void AddShape(Shape genericShape) |
| 63 | { |
| 64 | \_shapes.Add(genericShape); |
| 65 | } |
| 66 |  |
| 67 | public void RemoveShape(Shape genericShape) |
| 68 | { |
| 69 | \_shapes.Remove(genericShape); |
| 70 | } |
| 71 |  |
| 72 | //? Turns selected to true if shape is at mouselocation |
| 73 | public void SelectShapesAt(Point2D mouseLocation) |
| 74 | { |
| 75 | foreach(Shape genericShape in \_shapes) |
| 76 | { |
| 77 | if (!genericShape.Selected) |
| 78 | { |
| 79 | genericShape.Selected = genericShape.IsAt(mouseLocation); |
| 80 | } |
| 81 | } |
| 82 | } |
| 83 |  |
| 84 | //? Draw da shapes |

|  |  |
| --- | --- |
| 85 | public void Draw() |
| 86 | { |
| 87 | SplashKit.ClearScreen(Background); |
| 88 |  |
| 89 | foreach (Shape genericShape in \_shapes) |
| 90 | { |
| 91 | genericShape.Draw(); |
| 92 | } |
| 93 | } |
| 94 |  |
| 95 | //! 5.2C Code Relating to saving and loading functionality |
| 96 | public void Save(string filename) |
| 97 | { |
| 98 | StreamWriter writer = new(filename); |
| 99 |  |
| 100 | try |
| 101 | { |
| 102 | writer.WriteColor(Background); |
| 103 | writer.WriteLine(ShapeCount); |
| 104 |  |
| 105 | foreach (Shape genericShape in \_shapes) |
| 106 | { |
| 107 | genericShape.SaveTo(writer); |
| 108 | } |
| 109 | } |
| 110 | finally |
| 111 | { |
| 112 | writer.Close(); |
| 113 | } |
| 114 | } |
| 115 |  |
| 116 | public void Load(string filename) |
| 117 | { |
| 118 | StreamReader reader = new(filename); //TODO create exception to handle opening non |
| 119 | try |
| 120 | { |
| 121 | Shape genericShape; |
| 122 | int count; |
| 123 | string kind; |
| 124 |  |
| 125 | Background = reader.ReadColor(); |
| 126 | count = reader.ReadInteger(); |
| 127 |  |
| 128 | \_shapes.Clear(); |
| 129 |  |
| 130 | for (int i = 0; i < count; i++) |
| 131 | { |
| 132 | kind = reader.ReadLine(); |
| 133 |  |
| 134 | genericShape = kind switch |
| 135 | { |
| 136 | "Rectangle" => new MyRectangle(), |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 137 | |  |  |  | "Circle" => new MyCircle(), | |
| 138 | |  |  |  | "Line" => new MyLine(), | |
| 139 | |  |  |  | \_ => throw new Exception(kind + "is not a valid ShapeKind"), | |
| 140 | |  |  |  | }; | |
| 141 | |  |  |  |  | |
| 142 | |  |  |  | genericShape.LoadFrom(reader); | |
| 143 | |  |  |  | AddShape(genericShape); | |
| 144 | |  |  |  | } | |
| 145 | |  |  |  | } | |
| 146 | |  |  |  |  | |
| 147 | |  |  |  | finally | |
| 148 | |  |  |  | { | |
| 149 | |  |  |  | reader.Close(); | |
| 150 | |  |  |  | } | |
| 151 | |  |  | } |  | |
| 152 | |  | } |  |  | |
| 153 | | } |  |  |  | |
| 154 | |  |  |  |  | |
|  |  | | | | |  |

# [KingSchlock](https://github.com/KingSchlock) / [**COS20007**](https://github.com/KingSchlock/COS20007)

**Public**

[**Code**](https://github.com/KingSchlock/COS20007)[Issues](https://github.com/KingSchlock/COS20007/issues) [Pull requests](https://github.com/KingSchlock/COS20007/pulls) [Actions](https://github.com/KingSchlock/COS20007/actions) [Projects](https://github.com/KingSchlock/COS20007/projects) [Wiki](https://github.com/KingSchlock/COS20007/wiki) [Security](https://github.com/KingSchlock/COS20007/security) [Insights](https://github.com/KingSchlock/COS20007/pulse) [Settings](https://github.com/KingSchlock/COS20007/settings)



**main**

[**COS20007**](https://github.com/KingSchlock/COS20007) / [5.2C-Complete](https://github.com/KingSchlock/COS20007/tree/main/5.2C-Complete) / **Program.cs** / Jump to



**1** contributor

[**KingSchlock**](https://github.com/KingSchlock) [Add files via upload](https://github.com/KingSchlock/COS20007/commit/aa32b217e2b9e42a7cfd53235ced8222f6677fa6)

|  |  |
| --- | --- |
| 127 lines (106 sloc) 4.33 KB | |
| 1 | using SplashKitSDK; |
| 2 | using System; |
| 3 |  |
| 4 | namespace \_5.\_2C\_Not\_Complete |
| 5 | { |
| 6 | public class Program |
| 7 | { |
| 8 | private enum ShapeKind |
| 9 | { |
| 10 | Rectangle, |
| 11 | Circle, |
| 12 | Line |
| 13 | } |
| 14 |  |
| 15 | public static void Main() |
| 16 | { |
| 17 | Window window = new("5.2C: Thomas Horsley - 103071494", 800, 600); |
| 18 | Drawing drawing = new(); |
| 19 |  |
| 20 | ShapeKind kindToAdd = ShapeKind.Circle; |
| 21 |  |
| 22 | do |
| 23 | { |
| 24 | SplashKit.ProcessEvents(); |
| 25 | SplashKit.ClearScreen(); |
| 26 |  |
| 27 | Point2D mouseLocation = SplashKit.MousePosition(); |
| 28 |  |
| 29 | //! Mouse Functionality |
| 30 | if (SplashKit.MouseClicked(MouseButton.LeftButton)) |
| 31 | { |
| 32 | if (kindToAdd == ShapeKind.Rectangle) |

|  |  |
| --- | --- |
| 33 | { |
| 34 | Shape rectangleShape = new MyRectangle(Color.Green, 0, 0, false, 100, |
| 35 | { |
| 36 | X = (float)mouseLocation.X, |
| 37 | Y = (float)mouseLocation.Y |
| 38 | }; |
| 39 |  |
| 40 | drawing.AddShape(rectangleShape); |
| 41 | } |
| 42 | if (kindToAdd == ShapeKind.Circle) |
| 43 | { |
| 44 | Shape circleShape = new MyCircle(Color.Red, 0, 0, false, 50) |
| 45 | { |
| 46 | X = (float)mouseLocation.X, |
| 47 | Y = (float)mouseLocation.Y |
| 48 | }; |
| 49 |  |
| 50 | drawing.AddShape(circleShape); |
| 51 | } |
| 52 | if(kindToAdd == ShapeKind.Line) |
| 53 | { |
| 54 | Shape lineShape = new MyLine(Color.GreenYellow, 0, 0, false, 50) |
| 55 | { |
| 56 | X = (float)mouseLocation.X, |
| 57 | Y = (float)mouseLocation.Y, |
| 58 | }; |
| 59 |  |
| 60 | drawing.AddShape(lineShape); |
| 61 | } |
| 62 | } |
| 63 |  |
| 64 | //! Keystroke Functionality |
| 65 | //? Relates keys pressed to shape kind |
| 66 | if (SplashKit.KeyReleased(KeyCode.RKey)) |
| 67 | { |
| 68 | kindToAdd = ShapeKind.Rectangle; |
| 69 | } |
| 70 | else if (SplashKit.KeyReleased(KeyCode.CKey)) |
| 71 | { |
| 72 | kindToAdd = ShapeKind.Circle; |
| 73 | } |
| 74 | else if (SplashKit.KeyReleased(KeyCode.LKey)) |
| 75 | { |
| 76 | kindToAdd = ShapeKind.Line; |
| 77 | } //TODO <--- can i use cases instead? |
| 78 |  |
| 79 |  |
| 80 | //? Checks if shape is selected |
| 81 | if (SplashKit.MouseClicked(MouseButton.RightButton)) |
| 82 | { |
| 83 | drawing.SelectShapesAt(mouseLocation); |
| 84 | } |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 85 | |  |  |  |  | |
| 86 | |  |  |  |  | |
| 87 | |  |  |  | //? Changes background color when user presses space | |
| 88 | |  |  |  | if (SplashKit.KeyReleased(KeyCode.SpaceKey)) | |
| 89 | |  |  |  | { | |
| 90 | |  |  |  | drawing.Background = SplashKit.RandomRGBColor(255); | |
| 91 | |  |  |  | } | |
| 92 | |  |  |  |  | |
| 93 | |  |  |  | if (SplashKit.KeyReleased(KeyCode.DeleteKey) || SplashKit.KeyReleased(KeyCode. | |
| 94 | |  |  |  | { | |
| 95 | |  |  |  | foreach(Shape genericShape in drawing.SelectedShapes) | |
| 96 | |  |  |  | { | |
| 97 | |  |  |  | drawing.RemoveShape(genericShape); | |
| 98 | |  |  |  | } | |
| 99 | |  |  |  | } | |
| 100 | |  |  |  |  | |
| 101 | |  |  |  | //? Saves the data in a text file if Keydown S and Loads on Keydown O | |
| 102 | |  |  |  | if (SplashKit.KeyReleased(KeyCode.SKey)) | |
| 103 | |  |  |  | { | |
| 104 | |  |  |  | drawing.Save(Environment.GetFolderPath(Environment.SpecialFolder.Desktop) | |
| 105 | |  |  |  | } | |
| 106 | |  |  |  |  | |
| 107 | |  |  |  | if (SplashKit.KeyReleased(KeyCode.OKey)) | |
| 108 | |  |  |  | { | |
| 109 | |  |  |  | try | |
| 110 | |  |  |  | { | |
| 111 | |  |  |  | drawing.Load(Environment.GetFolderPath(Environment.SpecialFolder.Deskt | |
| 112 | |  |  |  | } | |
| 113 | |  |  |  | catch (Exception loadException) | |
| 114 | |  |  |  | { | |
| 115 | |  |  |  | Console.Error.WriteLine("Error loading file {0}", loadException.Messag | |
| 116 | |  |  |  | } | |
| 117 | |  |  |  |  | |
| 118 | |  |  |  | } | |
| 119 | |  |  |  |  | |
| 120 | |  |  |  | drawing.Draw(); | |
| 121 | |  |  |  | SplashKit.RefreshScreen(60); | |
| 122 | |  |  |  | } while (!window.CloseRequested); | |
| 123 | |  |  | } |  | |
| 124 | |  | } |  |  | |
| 125 | | } |  |  |  | |
| 126 | |  |  |  |  | |
| 127 | |  |  |  |  | |
|  |  | | | | |  |