

# Web Based Drawing Program

## ASSIGNMENT 3

Programming - 2 | CSE 223 | 5/12/2020

## 1.Participants:

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## 2.RUN THE PROGRAM:

1.Open the “**drawingbackend**” folder using any java IDE and Run “DrawingApplication.java” to run the spring Boot.

```
1 package com.example.drawing;  
2  
3 import ...  
4  
5 @SpringBootApplication  
6 public class DrawingApplication {  
7  
8     public static void main(String[] args) { SpringApplication.run(DrawingApplication.class, args); }  
9  
10 }  
11  
12  
13  
14
```

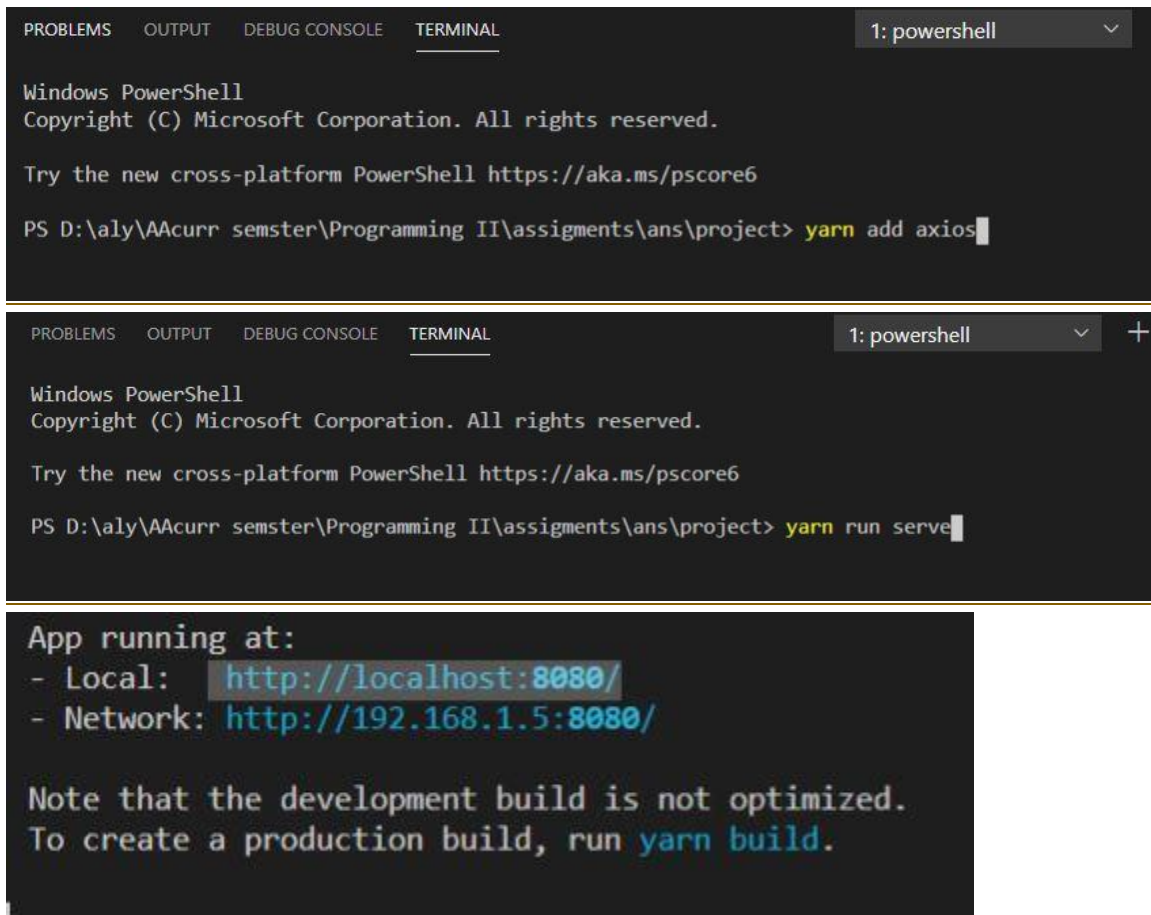
2.Run the Vue.js Applications using VS codes:

\*open the “project” folder in VS codes.

\*Make sure you have the extension “Vuetify vs”.

\*Write the command “yarn add axios” in the terminal of VS code.

\*Run the application using the command “yarn run serve”.\*The program will run at : <http://localhost:8080/>



The image consists of three vertically stacked screenshots of a Windows PowerShell terminal window. The top screenshot shows the terminal with the command `yarn add axios` entered. The middle screenshot shows the command `yarn run serve` entered. The bottom screenshot shows the output of the command, indicating the application is running at `http://localhost:8080/` and `http://192.168.1.5:8080/`, and includes a note about the development build not being optimized.

```
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS D:\aly\AAcurr semster\Programming II\assignments\ans\project> yarn add axios

Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS D:\aly\AAcurr semster\Programming II\assignments\ans\project> yarn run serve

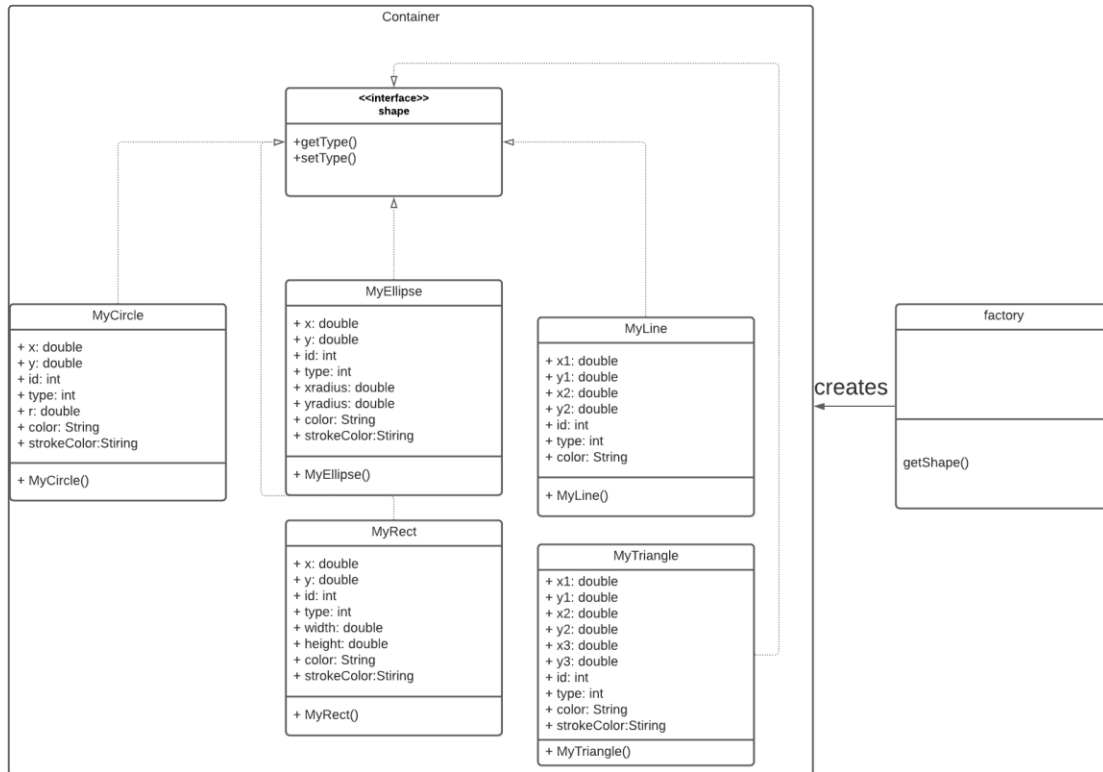
App running at:
- Local: http://localhost:8080/
- Network: http://192.168.1.5:8080/

Note that the development build is not optimized.
To create a production build, run yarn build.
```

### 3.Design Patterns:

- We have applied **Factory Design Pattern** in the process of shapes creation based on the user inputs we return the required shape without involving the client in this process and the client doesn't have a direct access to the shapes constructors
- We use principle of prototype in undo, redo and save as we make new instance by copying each change in the shape and also we use it in normal copying

## 4.UML Class Diagram:



## 5.User Guide:

### 1. Making shapes:

- To make circle press circle key then enter its radius, and press add circle.
- To make rectangle press rectangle key then enter its length and width, and press add rectangle.
- To make square press square key then enter its length and press add square.

- To make ellipse press ellipse key then enter the length of its two axes, and press add ellipse.
- To make triangle press triangle key then click on the canvas three clicks to specify its vertexes.
- To make line press line key then click on the canvas two clicks to specify its starting and ending point.

## 2. Moving:

- To move any shape double click on it and drag it anywhere you want.

## 3. Resizing:

- To resize circle you can drag any point from its border.
- To resize ellipse, drag it from the ends of its axes.
- To resize square or rectangle, drag it from the right bottom vertex.
- To resize line, drag it from its two ends.
- To resize triangle, drag it from its three vertexes.

## 4. Coloring:

- User can color both the border of the shape and inside the shape.
- To color inside the shape just click on color button after you choose your color from the pallet of colors then click inside the shape.

-To color the borders of the shape same as inside but you must click on the borders of the shape from which you resize them.

### 5. Deleting:

-Click on deleting button then click on the shape you want to delete it.

### 6. Copying:

-Click on copying button then click on the shape you want to copy it.

### 7. Undo and Redo:

-Click on undo or redo button on the right of the page.

### 8. Save & Load:

-Click on the details button on the left of the page two buttons will appear to you.

-To save click on save it will appear to you some option file to save on them and you can make new files, you have two options two save in Json file or in xml file just right the file name attached with. json or .xml then click on the file name should to you to save in it.

To load click on load button choose one file from files shown to you to load it.

## 6.Additional Features:

- The undo and redo are being saved with the project.
- You can undo and redo freely.
- Coloring the stroke.
- Moving and resizing in the same mode.
- The hole shape is mapped to the cursor movement not just the center to get better control in the shape location.
- Interactive cursor to indicate which operation you perform.
- Wide range of color to choose and transparency degrees.
- User-friendly interface.

## 7.Snapshots of UI:

