Subject: SBL-OOPJ **Class: SE-Data Science**

Semester: III **A.Y. 2022-2023**

Experiment No. 12

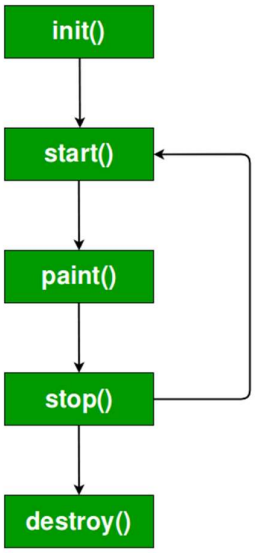
❖ **Aim :** Write a Java program to draw different mathematical shapes using Applet class.

Theory :

An applet is a Java program that can be embedded into a web page. It runs inside the web browser and works at client side. An applet is embedded in an HTML page using the APPLET or OBJECT tag and hosted on a web server.

Applets are used to make the website more dynamic and entertaining.

Life cycle of an applet :



init( )

start( )

paint( )

When an applet is terminated, the following sequence of method calls takes place:

stop( )

destroy( )

1. init( ) : The **init( )** method is the first method to be called. This is where you should initialize variables. This method is called **only once** during the run time of your applet.

2. start( ) : The **start( )** method is called after **init( )**. It is also called to restart an applet after it has been stopped. Note that **init( )** is called once i.e. when the first time an applet is loaded whereas **start( )** is called each time an applet's HTML document is displayed onscreen. So, if a user leaves a web page and comes back, the applet resumes execution at **start( )**.

3. paint( ) : The **paint( )** method is called each time an AWT-based applet's output must be redrawn. **paint( )** is also called when the applet begins execution. Whatever the cause, whenever the applet must redraw its output, **paint( )** is called.

The **paint( )** method has one parameter of type Graphics. This parameter will contain the graphics context, which describes the graphics environment in which the applet is running. This context is used whenever output to the applet is required.

4. stop( ) : The **stop( )** method is called when a web browser leaves the HTML document containing the applet—when it goes to another page, for example. When **stop( )** is called, the applet is probably running. You should use **stop( )** to suspend threads that don't need to run when the applet is not visible. You can restart them when **start( )** is called if the user returns to the page.

5. destroy( ) : The **destroy( )** method is called when the environment determines that your applet needs to be removed completely from memory. At this point, you should free up any

```
import java.applet.Applet;
import java.awt.Graphics;

// HelloWorld class extends Applet
public class HelloWorld extends Applet
{
   // Overriding paint() method

   public void paint(Graphics g)
   {
      g.drawString("Hello World", 20, 20);
   }

}
```

There are **two** standard ways in which you can run an applet :

1. Executing the applet within a Java-compatible web browser.
2. Using an applet viewer, such as the standard tool, applet-viewer. An applet viewer executes your applet in a window. This is generally the fastest and easiest way to test your applet.

Each of these methods is described next.

1. Using java enabled web browser : To execute an applet in a web browser we have to write a short HTML text file that contains a tag that loads the applet. We can use APPLET or OBJECT tag for this purpose. Using APPLET, here is the HTML file that executes HelloWorld :

<applet code="HelloWorld" width=200 height=60>

</applet>

The width and height statements specify the dimensions of the display area used by the applet. The APPLET tag contains several other options. After you create this html file, you can use it to execute the applet.

Using appletviewer : This is the easiest way to run an applet. To execute HelloWorld with an applet viewer, you may also execute the HTML file shown earlier. For example, if the preceding HTML file is saved with RunHelloWorld.html, then the following command line will run HelloWorld :

appletviewer RunHelloWorld.html