Applet [Study Experiment]

1. **What is Applet?**
2. **Life cycle of an applet.**
3. **Create Hello World applet.**

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. The applets are used to provide interactive features to web applications that cannot be provided by HTML alone. They can capture mouse input and also have controls like buttons or check boxes. In response to user actions, an applet can change the provided graphic content. This makes applets well-suited for demonstration, visualization, and teaching. There are online applet collections for studying various subjects, from physics to heart physiology. If needed, an applet can leave the dedicated area and run as a separate window. Applets can also play media in formats that are not natively supported by the browser.

Stages in the Life Cycle of Java Applet

- Initializing an Applet
- Starting the Applet
- Painting the Applet
- Stopping the Applet
- Destroying the Applet

Four methods in the Applet class gives you the framework on which you build any serious applet −

- **init** − This method is intended for whatever initialization is needed for your applet. It is called after the param tags inside the applet tag have been processed.
- **start** − This method is automatically called after the browser calls the init method. It is also called whenever the user returns to the page containing the applet after having gone off to other pages.
- **stop** − This method is automatically called when the user moves off the page on which the applet sits. It can, therefore, be called repeatedly in the same applet.
- **destroy** − This method is only called when the browser shuts down normally. Because applets are meant to live on an HTML page, you should not normally leave resources behind after a user leaves the page that contains the applet.

- **paint** − Invoked immediately after the start() method, and also any time the applet needs to repaint itself in the browser. The paint() method is actually inherited from the java.awt.

Hello World Applet

```
// A Hello World Applet
// Save file as HelloWorld.java

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

// HelloWorld class extends Applet
public class HelloWorld extends Applet
{
    // Overriding paint() method
    @Override
    public void paint(Graphics g)
    {
        g.drawString("Hello World", 20, 20);
    }

}
```

The above java program begins with two import statements. The first import statement imports the Applet class from applet package. Every AWT-based(Abstract Window Toolkit) applet that you create must be a subclass (either directly or indirectly) of Applet class. The second statement import the Graphics class from AWT package.

The next line in the program declares the class HelloWorld. This class must be declared as public because it will be accessed by code that is outside the program. Inside HelloWorld, **paint( )** is declared. This method is defined by the AWT and must be overridden by the applet.

Inside **paint( )** is a call to *drawString( ),* which is a member of the Graphics class. This method outputs a string beginning at the specified X,Y location.