Applets in Java

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Introduction

- Applet is small java program that can be easily transported over the network from one computer to other.
- used in internet applications.
- embedded in an html page, can be downloaded from the server and run on the client, so as to do a specific kind of job.

Types of Java Programmes

- Standalone
- Web based

Stand Alone Program

commandline.java - Notepad

File Edit Format View Help

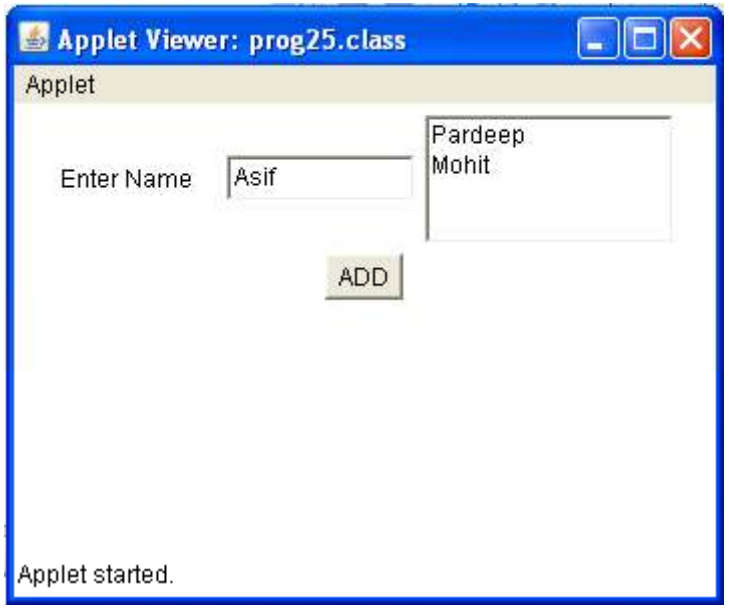
```
import java.util.*;

public class commandline
{
     public static void main(String[] args)
     {
          int a,b,s;
          String m,n;
          m=args[1];
          n=args[2];
         Integer x=Integer.parseInt(m);
         Integer y=Integer.parseInt(n);
         a=x.intValue();
         b=y.intValue();
          s=a+b;
          System.out.println("the sum is "+s);
     }

}
```

1. Run on a Single Machine
2. Compiler - javac
3. Interpreter - java

Web-Based Program



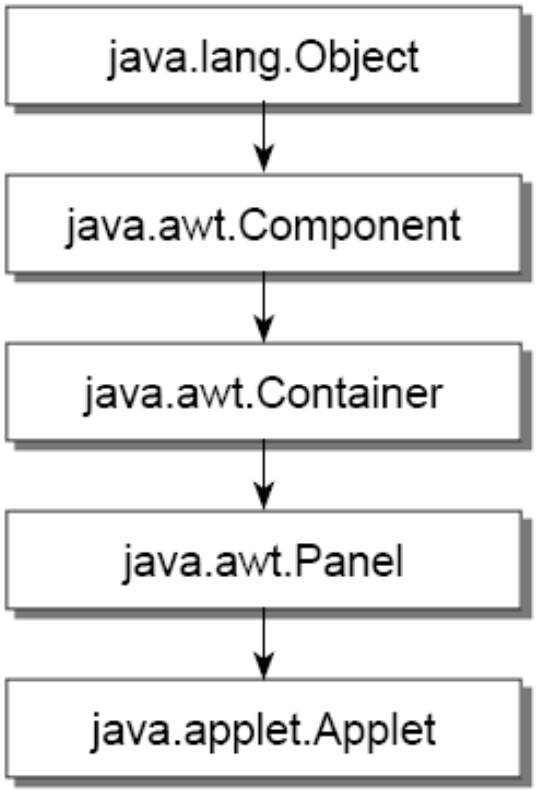
1. Compiler - javac
2. Interpreter - appletviewer or web brower
3. Must Subclass of Applet
4. Import java.awt

Difference between an applet and application

Applet	Application
The execution of the applet does not start from main( ) method, as it does not have one.	The execution of an application program starts from main( ).
Applets cannot run on their own, i.e. they have to be embedded inside a web page to get executed.	These can run on their own, i.e. in order to get executed, they need not be embedded inside any web page.
Applets can only be executed inside a browser or appletviewer.	Applications are executed at command line.
Applets execute under strict security limitations that disallow certain operations(sandbox model security).	Applications have no inherent security restrictions.
Applets have their oun life cycle init() → start() →paint() →stop →desktop()	Applications have their own life cycle. Their execution begin at main().

APPLET CLASS

- **java.applet.Applet** is the super class of the all the applets.
- Applet class has a predefined hierarchy



Applet Example

```
import java.applet.*;
import java.awt.*;
public class FirstApplet extends Applet {
public void paint(Graphics g) {
g.drawString("Welcome in Applets",10,50);
}
}
```

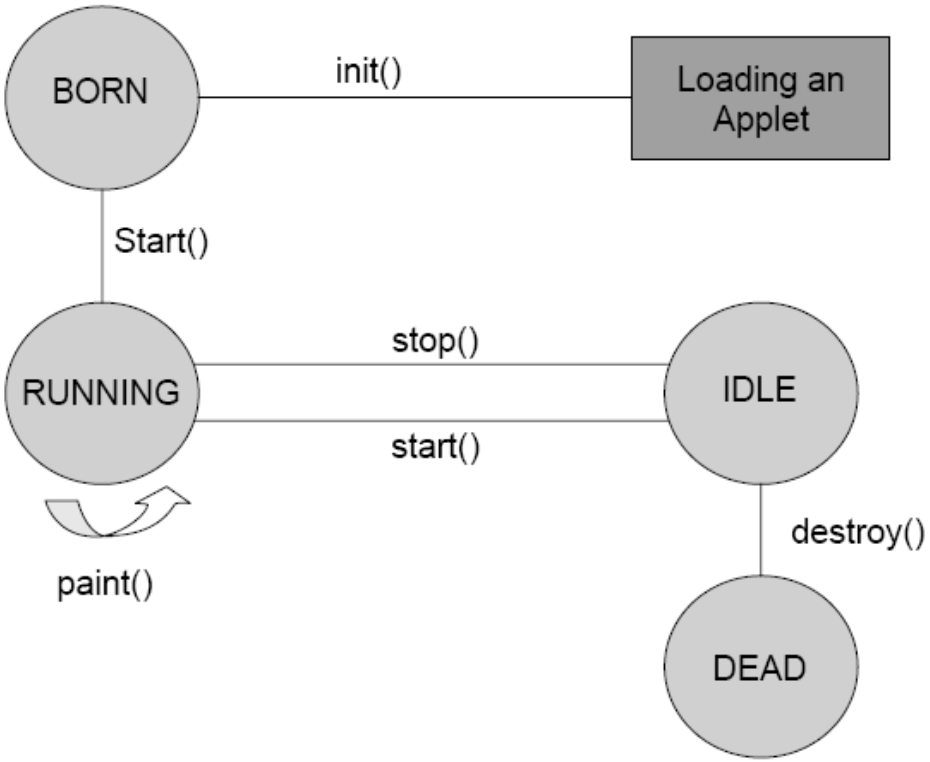
The Output


Applet Viewer: Firs...
Applet
Welcome in Applets
Applet started.

Applet Life cycle

- An applet may move from one state to another depending upon a set of default behaviours inherited in the form of methods from ‘Applet’ class.
- These states are
  - **Born**
  - **Running**
  - **Idle**
  - **Dead**

Applet State Diagram



Life cycle of Applet

- **init() -**
  - creates the objects needed by the applet;
  - sets up initial values, load font and images or set up colors.
  - called only once during the lifetime of on Applet.
- **start()-**
  - moves to this phase automatically after the initialization state.
  - if the applet is stopped or it goes to idle state, start() method must be called in order to force the applet again to the running state.
- **paint() -**
  - This method is called each time to draw and redraw the output of an applet.
- **stop()-**
  - idle state, once it is stopped from running
- **destroy()-**
  - An applet goes to dead state when it is destroyed by invoking the destroy() method of Applet class.
  - It results in complete removal of applet from the memory.


Thank
You