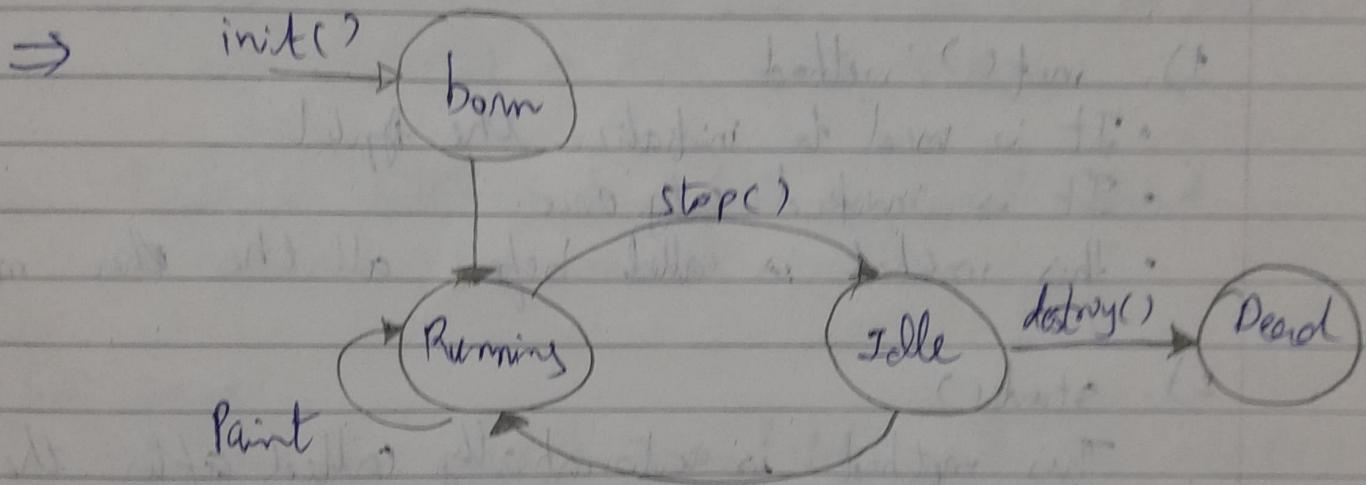


A SSIGNMENT 1

Answer the following question

Q: 1 Describe life cycle applet with neat diagram



→ In applet life cycle, there are five stages which are given in above figure and these stages are represented by 5 methods

→ These methods called automatically by the browser whenever required for the execution of the applet.

→ No need to call these method by the user.
Following are methods of life cycle

- 1). init() method
- 2). start() method

3. paint() method
4. stop() method
5. destroy() method

paint() method is the component of `JAVA.awt` component class and rest are defined in `JAVA.applet` Applet class.

1). init() method

- It is used to initialize the Applet
- It is invoked only once
- This method is called before all the other methods.

2). start()

This method is automatically called after the browser call the init method. It is also called whenever the user returns to the page containing the applet after having gone off to other pages.

3). stop()

An applet comes in idle state when its execution has been stopped either implicitly or explicitly.

An applet is implicitly stopped when we leave the page containing the currently running applet.

- An applet is explicitly stopped when we call `stop()` method to stop its execution.
- So, this method called repeatedly in the same applet.

4). `destroy()`

- This method is only called when browser shutdown normally. It is only called once.
- It is called just before an applet object is removed from memory.

5). `paint()`

- This is invoked immediately after the `start()` method, and also any time the applet needs to repaint itself in browser.
- The `paint()` methods is actually inherited from `java.awt`.
- It provides graphics class object that can be used for drawing oval, rectangle etc.

Q. 2 Differentiate between

1). Local Applet & Remote Applet

Local Applet

→ It is developed and stored in local system.

→ The webpage will search the local system directions to find the local applet & execute it.

→ Execution of local applet does not require internet connection.

→ Example:-

```
<applet codebase="Path"  
code="XYZ.class"  
width=120 height=120>  
</applet>
```

Remote Applet

→ It is developed and stored in remote system.

→ The webpage will require an internet connection to locate and load the remote applet from the remote computers.

→ Execution of remote applet must require internet connection.

→ Example:-

```
<applet codebase="URL"  
code="XYZ.class"  
width=120 height=120>  
</applet>
```

Applet & Application

Applet

→ Applet does not requires main() method to start its execution.

→ It requires JAVA enabled browser or AppletViewer for execution.

→ Applet can be embedded within webpage.

→ Applet accepts input through PARAM tag.

→ Applet executes under strict security restriction.

Application

→ Application requires main method to start its execution.

→ It requires Java Runtime Environment (JRE) for execution.

→ Application cannot be embedded within webpage.

→ Application accepts input through command line argument.

→ Application does not have strict security restriction.

3). Explain how to pass parameters to applet with syntax and suitable example.

- The HTML <applet> tag specifies one applet
- It is used for embedding Java applet within an HTML document.

* Passing parameters to applet

→ Parameters are analogous to command-line arguments, they provide way to pass information to an applet.

→ Each <PARAM> tag contains a name & value that are passed as strings to applet.

Syntax : <PARAM name = Parameter-name
value = Parameter-value>

4). Explain <applet> tag with its all necessary attributes.

→ <APPLET> tag is used to embed an executable applet into webpage.

* The attributes of the APPLET tag are.

1). CODEBASE: It is optional attribute. It specifies the URL of the applet code.

2). CODE :- It is not an optional attribute you must specify this attribute. It contains the name of the applets class file.

3). ALT :- It is an optional attribute. It contains a text that is displayed if the browser understands the applet tag but can't currently run Java applets.

4). NAME :- It is used to specify a name for the applet. It is useful to identify and communicate the applet of HTML application contain more than one applet.

5). Width & Height :- width & height both are the compulsory attributes. It specifies the size of the applet on HTML application. Both are specified in terms of pixels.

6). Align : You can set the alignment of the applet using one of the following values. LEFT, RIGHT, TOP, BOTTOM, MIDDLE, BASELINE, TEXTTOP, ABSMIDDLE, and ABSBOTTOM

7). PARAM NAME AND VALUE : PARAM tag allows you to pass arguments to an applet from HTML application.

5). Write advantages and disadvantages of Applet -

- Applets are platform independent so they work on almost all operating systems.
- Applets do not have compatibility issues with different versions of JAVA.
- Applets are supported by almost all the major browsers.
- Applets are cached quickly so they are quick to load.
- Applet cannot work with native methods.

Q: b) Do as directed

- a). What is the use of appletviewer utility in JAVA?
- Applet viewer utility allows user to run applet outside web browser. Applet viewer is a standalone command-line program to run Java applets. Applet viewer is generally used by designers for testing their applets before deploying them to a website.

b). List the following

i). Method of Component class

- void add (Component c)
- void setSize (int width, int height)
- void setForeground (Color)
- void setBackground (Color)
- Color getName (String)
- Color setName ()
- void setEnabled (boolean)
- void setVisible (boolean)
- Boolean isVisible ()
- int getWidth ()
- int getHeight ()
- int getX ()
- int getY ()
- void repaint
- void repaint (int, int, int, int)
- void remove (Component)
- void removeAll ()
- void setLayout (Layout manager)
- Layout Manager getLayout ()
- Rectangle getBounds ()
- Rectangle getBounds (Rectangle)
- void setBounds (int, int, int, int)
- void subBounds (Rectangle)

ii). Methods of graphics class

- public void drawString(String str , int x , int y)
- public void drawLine (int x1,int y1 , int x2,int y2)
- public void drawRect (int x , int y , int width , int height)
- public void drawOval (int x , int y , int width , int height)
- public void drawPolygon (int [] x points , int [] y points , int n points [])
- public void drawArc (int x , int y , int width , int height , int startAngle , int arcAngle)
- public void fillRect (int x , int y , int width , int height)
- public void fillOval (int x , int y , int width , int height)
- public void fillPolygon (int [] x points , int [] y points , int n points)
- public void fillArc (int x , int y , int width , int height , int startAngle , int arcAngle)
- public void set color (color c)
- public color get color ()

c). Draw string method of graphics class is used to print string in applet.

d). Which package are required to create an applet.

⇒ import java.applet.*;
import java.awt;

e). white is default background color of applet

f). Black is default foreground color of applet

Q-7 Describe process to design a webpage with <APPLET>

- An applet can be added to HTML file using <APPLET> tag
- Before we add an applet to HTML file we need following things:-
 - 1). A Java file that contains source code of an Applet.
 - So first create MyFirstApplet.java.
 - 2). A class file that contains executable Applet code
 - Once we create MyfirstApplet.java file that contains source code of an applet, we need to compile it in order to create an executable applet code.
 - 3). A HTML file that displays applet in a web browser or appletviewer
 - Once class file is created we need to design a webpage using HTML to embed class file in it. So design a webpage and add applet onto webpage using <APPLET> tag.