

Experiment No: 10

Aim:- To write a Java program to draw oval, rectangle, line, text using graphics class

Software Used :- Eclipse

Theory:-

Abstract Window Toolkit

User interaction with the program is of two types:

- **CUI (Character User Interface):**

In CUI user interacts with the application by typing characters or commands. In CUI user should remember the commands. It is not user friendly.

- **GUI (Graphical User Interface): -**

In GUI user interacts with the application through graphics. GUI is user friendly. GUI makes application attractive. It is possible to simulate real object in GUI programs.

In java to write GUI programs we can use awt (Abstract Window Toolkit) package.

java.awt is a package that provides a set of classes and interfaces to create GUI programs.

Applet Programming

Applets are small java programs that are used in internet programming. Java applets can be transported over the internet from one computer to another & run using the 'applet viewer' or any 'web browser' that supports java.

An applet is like an application program which can perform arithmetic operation, display graphics, play sound files, display scrolling text, can display message in the status bar, can change images, can accept user input, can create animation & can play interactive games.

Java has unable web pages to create & use fully interactive multimedia web documents.

A web page can not only contain simple text or static text but also a java applet which run & can produce graphics. Hence, java applets has made significant impact on internet i.e. www.

Restrictions on java Applet

- Applets are not allowed to read from or write from to files on the local system. Applet can communicate only with the server on which they are resident.
- Applets are not allowed to execute any application on local computer neither they are allowed to load DLL.
- Java applets are included in html pages using special tag i.e. <applet> tag. When the user loads the page containing java applet in his browser, the browser downloads the applet on local machine & executes the Byte code on the local system.
- A java applet is a program that has to be run within a web browser.

Type of APPLET

Can be embed into web Applets goes in two ways:

1 Local Applet

2 Remote Applet

Local Applet:

- An applet which is develop locally & store into a local system then it is called as local applet. It searches the directory in the local system & locates & loads the specified applet.

Remote Applet:

- An applet which is design by someone & store on a remote computer is called a Remote Applet.
- To access remote applet, internet connection is require.
- Remote applet can be downloaded from the internet by giving applet address on the web page & this address is known as Uniform Recourse Locator (URL).
- This URL is specified in applet HTML document as the value of code base attribute.

How Applets Differ From Application Program?

- Applet standalone application are java program which differ from each other in following ways
- Applets are not fully featured application programs. They are written to perform a small task.
- Applets are design for the use of internet, they have their limitations.
- Applet do not use main method for execution of code.
- Applets may loaded automatically calls certain methods of applet class to start & execute the applet code

Program:

Output:

Conclusion:

Questions-

- 1) Draw lifecycle of Applet.
- 2) What are features of Applet?
- 3) Compare application with applet.