**PROJECT IN JAVA**

**Introduction of Java:**

* Java is an object-oriented programming language developed by Sun Microsystems and released in 1995.
* Java was originally developed by James Gosling at Sun Microsystems (which has since merge into Oracle Corporation).
* Java programs are platform independent which means they can be run on any operating system with any type of processor as long as the [Java interpreter](http://www.w3schools.in/java-tutorial/java-virtual-machine/) is available on that system.
* Java code that runs on one platform does not need to be recompiled to run on another platform, it’s called write once, run anywhere(WORA).
* [Java Virtual Machine (JVM)](https://www.w3schools.in/java-tutorial/java-virtual-machine/) executes Java code, but is written in platform specific languages such as [C](https://www.w3schools.in/c/intro/)/[C++](https://www.w3schools.in/cplusplus/intro/) etc. JVM is not written in Java and hence **cannot be platform independent** and Java interpreter is actually a part of JVM.

**Facts About Java:**

Java is one of the most important programming language in today’s IT industries.

* **JSP –**Java is used to create **web applications** like [PHP](https://www.w3schools.in/php/intro/) and ASP, JSP(Java Server Pages) used with normal HTML tags, which helps to create dynamic web pages.
* **Applets –**This is another type of Java program that used within a web page to add many new features to a web browser.
* **J2EE –**The software Java 2 Enterprise Edition are used by various companies to transfer data based on [XML](https://www.w3schools.in/xml/intro/) structured documents between one another.
* **JavaBeans –**This is something like Visual Basic, a reusable software component that can be easily assemble to create some new and advanced application.
* **Mobile** **–**Besides the above technology, Java is also used in mobile devices, many kind of games and services built-in Java. Today, all leading mobile service provider like Nokia, Siemens, Vodafone are using Java technology.

**Types of Java Applications:**

1. **Web Application –** Java is used to create server-side web applications. Currently, servlet, jsp, struts, jsf etc. technologies are used.
2. **Standalone Application –** It is also known as desktop application or window-based application. An application that we need to install on every machine or server such as media player, antivirus etc. AWT and Swing are used in java for creating standalone applications.
3. **Enterprise Application –** An application that is distributed in nature, such as banking applications etc. It has the advantage of high level security, load balancing and clustering. In java, EJB is used for creating enterprise applications.
4. **Mobile Application –** Java is used to create application softwares for mobile devices. Currently Java ME is used for creating applications for small devices, and also Java is programming language for Google Android application development.

## Features of Java:

* **Object Oriented**– In java everything is an Object. Java can be easily expanded since it is based on the Object model.
* **Platform independent –**C and C++ are platform dependency languages hence the application programs written in one Operating system cannot run in any other Operating system, but in platform independence language like Java application programs written in one Operating system can able to run on any Operating system.
* **Simple –**Java is designed to be easy to learn. If you understand the basic concept of OOP java would be easy to master.
* **Secure –** With Java’s secure feature it enables to develop virus-free, tamper-free systems. Authentication techniques are based on public-key encryption.
* **Architectural-neutral –**Java compiler generates an architecture-neutral object file format which makes the compiled code to be executable on many processors, with the presence Java runtime system.
* **Portable –**being architectural neutral and having no implementation dependent aspects of the specification makes Java portable. Compiler and Java is written in ANSI C with a clean portability boundary which is a POSIX subset.
* **Robust –**Java makes an effort to eliminate error prone situations by emphasizing mainly on compile time error checking and runtime checking.
* **Multi-threaded –**With Java’s multi-threaded feature it is possible to write programs that can do many tasks simultaneously. This design feature allows developers to construct smoothly running interactive applications.
* **Interpreted –**Java byte code is translated on the fly to native machine instructions and is not stored anywhere. The development process is more rapid and analytical since the linking is an incremental and light weight process.
* **High Performance –**With the use of Just-In-Time compilers Java enables high performance.
* **Distributed –**Java is designed for the distributed environment of the internet.
* **Dynamic –**Java is considered to be more dynamic than C or C++ since it is designed to adapt to an evolving environment. Java programs can carry an extensive amount of run-time information that can be used to verify and resolve accesses to objects on run-time.

## Requirements to Run Java:

* You will need the Java software development kit from <http://java.sun.com/>
* Follow the instructions on Sun’s website to install it.
* Make sure that you add the java bin directory to your [PATH environment variable](http://www.w3schools.in/java/install/).

**Facility required for proposed Work:-**

Software Requirements:

* Operating system:Windows 8
* JDK (Java Development kit)
* MySQL (For Storing Database)

Hardware Requirements:

* Corei5
* Keyboard and mouse
* Pendrive
* 400MB RAM

**Project Structures:-**

Front End:

* Java Applet
* Swings

Back End:

* MySQL

**Project Files:**

To make this program run we have to save it by filename.java extension :-

* Applet.java

**Project Coding:s**

**Here is Server file with multiple file upload support:**

**Applet.java**

import java.io.\*;

import java.awt.\*;

import java.applet.AudioClip;

import java.applet.\*;

import javax.swing.\*;

//import java.applets.Animator.images.Beans;

/\*<applet code = "ImageAnim" width=300 heigth=400>

</applet>\*/

public class ImageAnim extends Applet implements Runable

{

TextField imgtxt

Public Image()

{

setLayout(new GridLayout(3,2,10,15));

setBackground(Color.cyan);

imgtxt = new TextField(50);

add(new Label(“Enter image name here”)); add(imgtxt);

}

Image Pics[] = new Image[10];

Image currimage;

AudioClip c1;

Thread timage;

public void init()

{

String picsource[] = {"t1.gif","t2.gif","t3.gif","t4.gif","t5.gif","t6.gif","t7.gif","t8.gif","t9.gif","t10.gif"};

Public void actionPerformed(ActionEvent e)

{

if(imgtxt==string.picsource[])

{

for(ini i=0; i<10; i++)

{

pics[i]= getImage(getCodeBase(),picsource[i]};

pics[i]= getImage(getCodeBase(),picsource[i]);

c1.getAudioClip(getCodeBase(),"i=acs");

}

}

public void start()//maximize

{

c1.play();

if(timage==null)

{

timage= new Thread(this);

timage.start();

}

}

public void stop()//minimize

{

timage= null;

if(c1 != null)

c1.stop();

}

public void destroy()//close

{

timage = null;

}

public void run()

{

setBackground(ColorPink);

int i=0;

Thread this Thread= Thread.currentThread();

while(timage==ThisThread)

{

currimage= pics[i];

repaint();

c1.play();

try

{

Thread.sleep(1000);

}

catch(InteruptedException e)

{

System.out.println(e);

}

i++;

if(i==pics.length)

i=0;

}

}

public void paint(Graphics g)

{

if currimage !=null)

g.drawImage(currimage,10,40,this);

}

}