

What is Java?

- JAVA IS A PROGRAMMING LANGUAGE AND COMPUTING PLATFORM FIRST RELEASED BY SUN MICROSYSTEMS IN 1995.
- JAVA WAS DESIGNED TO BE MULTI-PLATFORM TO RUN ON MULTIPLE OS'S AND PROCESSORS.
- JAVA IS FAST, SECURE, AND RELIABLE. FROM LAPTOPS TO DATACENTERS, GAME CONSOLES TO SCIENTIFIC SUPERCOMPUTERS, CELL PHONES TO THE INTERNET, JAVA IS EVERYWHERE!

Difference between C,C++ and Java:

Aspects	C	C++	Java
Developed Year	1972	1979	1991
Developed By	Dennis Ritchie	Bjarne Stroustrup	James Gosling
Successor of	BCPL	C	C(Syntax) & C++ (Structure)
Paradigms	Procedural	Object Oriented	Object Oriented
Platform Dependency	Dependent	Dependent	Independent
Keywords	32	63	50 defined (goto, const unusable)
Datatypes : union, structure	Supported	Supported	Not Supported
Pre-processor directives	Supported (#include, #define)	Supported (#include, #define)	Not Supported
Header files	Supported	Supported	Use Packages (import)
Inheritance	No Inheritance	Supported	Multiple Inheritance not Supported
Overloading	No Overloading	Supported	Operator Overloading not Supported
Pointers	Supported	Supported	No Pointers
Code Translation	Compiled	Compiled	Interpreted
Storage Allocation	Uses malloc, calloc	Uses new, delete	uses garbage collector
Multi-threading and Interfaces	Not Supported	Not Supported	Supported
Exception Handling	No Exception handling	Supported	Supported
Templates	Not Supported	Supported	Not Supported
Storage class: auto, extern	Supported	Supported	Not Supported
Destructors	No Constructor or Destructor	Supported	Not Supported
Database Connectivity	Not Supported	Not Supported	Supported

Advantages of Java

- ▶ Java is easy to learn.
- ▶ Java is an object oriented programming languages which allows you to create modular programs and reusable codes.
- ▶ Java is robust <http://languages.it> provides the powerful exception handling .Java puts a lot of emphasis on early checking for easily errors.
- ▶ Java is platform Home - independent L. is one of the most significant advantages,easily move to one computer to another computer.
- ▶ Java language compiler, interpreter, run time environment then one of the first programming languages to consider security as part of its design.
- ▶ Java supports variable size arrays and good standard language and syntax.
- ▶ Multithreading is smoothly integrated, It is necessity in visual and network programming and also it can perform the several tasks simultaneously within program.

Disadvantages of Java

- ▶ Performance: Java can be perceived as significantly slower and more memory-consuming than natively compiled languages such as C or C++.

Setup guide

- ▶ Java SE is freely available from the link <http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html>. You can download a version based on your operating system.
- ▶ Follow the instructions to download Java and run the **.exe** to install Java on your machine. Once you installed Java on your machine, you will need to set environment variables to point to correct installation directories –
- ▶ Setting Up the Path for Windows
- ▶ Assuming you have installed Java in `c:\Program Files\java\jdk` directory –
- ▶ Right-click on 'My Computer' and select 'Properties'.
- ▶ Click the 'Environment variables' button under the 'Advanced' tab.
- ▶ Now, alter the 'Path' variable so that it also contains the path to the Java executable. Example, if the path is currently set to 'C:\WINDOWS\SYSTEM32', then change your path to read 'C:\WINDOWS\SYSTEM32;c:\Program Files\java\jdk\bin

Editors

- ▶ There are many editors for Java like, netbeans, eclipse, notepad. I will be using Eclipse.
- ▶ Download eclipse from:
- ▶ http://www.eclipse.org/downloads/download.php?file=/technology/epp/downloads/release/mars/R/eclipse-jee-mars-R-win32-x86_64.zip
- ▶ Also I have attached a eclipse location in case needed