

# Intro to Java

## JAVA History

Java was a project named 'Oak' started by James Gosling in 1991 at Sun Microsystems.

Java was influenced by C++

Renamed to **JAVA** in 1995

Sun Microsystems was acquired by Oracle in 2010

## Why has it become so popular?

- Platform Independent
- Security
- Object oriented
- Multithreading
- Simple to learn
- Robust

## JVM, JRE & JDK

### Java Development Kit - (JDK)

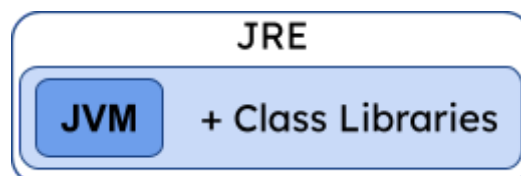
JDK provides an environment to develop and execute the java program.

JDK includes two things - **Development Tools** to help to develop Java programs and **JRE** to execute Java programs.



### Java Runtime Environment - (JRE)

JRE provides an environment to only run (not develop) the java programs onto your machine. JRE is only used by the end-users of the system. JRE consists of libraries and other files that JVM uses at runtime.

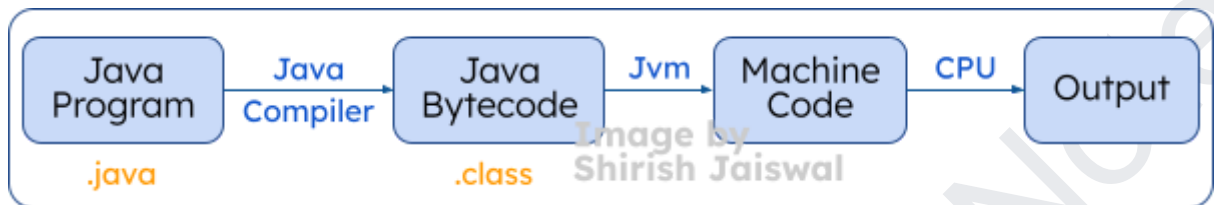


## Java Virtual Machine - (JVM)

This is responsible for converting Bytecode to machine code.

Compiler converts your source code to java bytecode → Then bytecode is executed on JVM.

The JVM is used for both – translating the bytecode into the machine language for a particular computer, and actually executing the corresponding machine-language instructions as well.



## What is a Console application?

1. A console application is an application to works with data input and data output
2. These applications don't have GUI (Graphical user interface)
3. Mostly used for education purposes

## Java Console Program

We will create Source code which is a **.java** extension file, where code is written.

Then a java compiler (javac) converts java source code to bytecode which is a **.class** file which contains byte code produced by javac.

Then JVM will execute bytecode that is .class file.

## Integrated Development Environment - (IDE)

It is a software application that provides comprehensive facilities to computer programmers software development

Consist of source code editor, build automation tools, debugger, compiler.

The most popular java development Ide are:

- Eclipse
- IntelliJ Idea
- Net Beans
- Android Studio (for android application)