

## JAVA

→ High Level object oriented programming language.

Developed by James Gosling at Sun Microsystems now Oracle in 1995

Principle : WORA - Write Once Run Anywhere

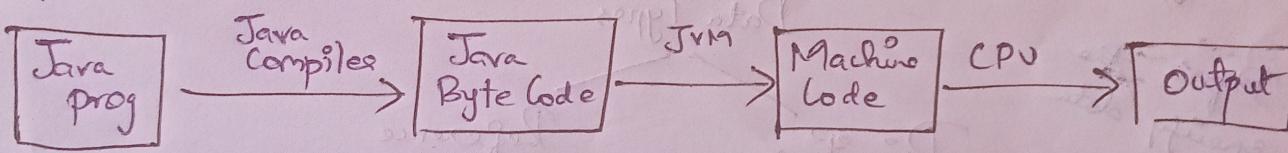
→ Most popular & widely used.

Adv:

- \* Simple
- \* High performance
- \* Standard Alono Apps
- \* Secure
- \* Platform independent
- \* Web Apps
- \* Dynamic
- \* Portable
- \* Enterprise Apps

## Getting Started

Install JDK (Java Development Kit) Includes Java Compiler (javac), Java Runtime Environment (JRE) JVM - Java Virtual Machine



Class → Declares

Public → Access modifiers

Static → Declares the method

Void → Return type of the method

Main → Prog execution

String [args] → Command line arguments.

System.out.println(); Print Statement

Class ↘ Object of  
Print Stream Class

JVM

Abstract Machine

Provide runtime environment

JRE

Run Java Apps

Includes JVM

class library &

other supporting

files

JDK

Convert source code  
into a format which  
JRE can

execute

Collection of tools &  
libraries

System.in → Input Stream  
System.out → Output Stream

## User Input:

Implement using `java.lang` package

### Program:

```
import java.lang.System;
import java.util.Scanner; Import Input from terminal
class Hello{
    public static void main (String [] args) {
        Scanner id = new Scanner (System.in); Input
        data type String int a = id.nextInt(); Input int
        int b = id.nextInt(); → nextLine
        System.out.println (a+b);
    }
}
```

`nextLine` → String type  
`int` → Storing

O/p:

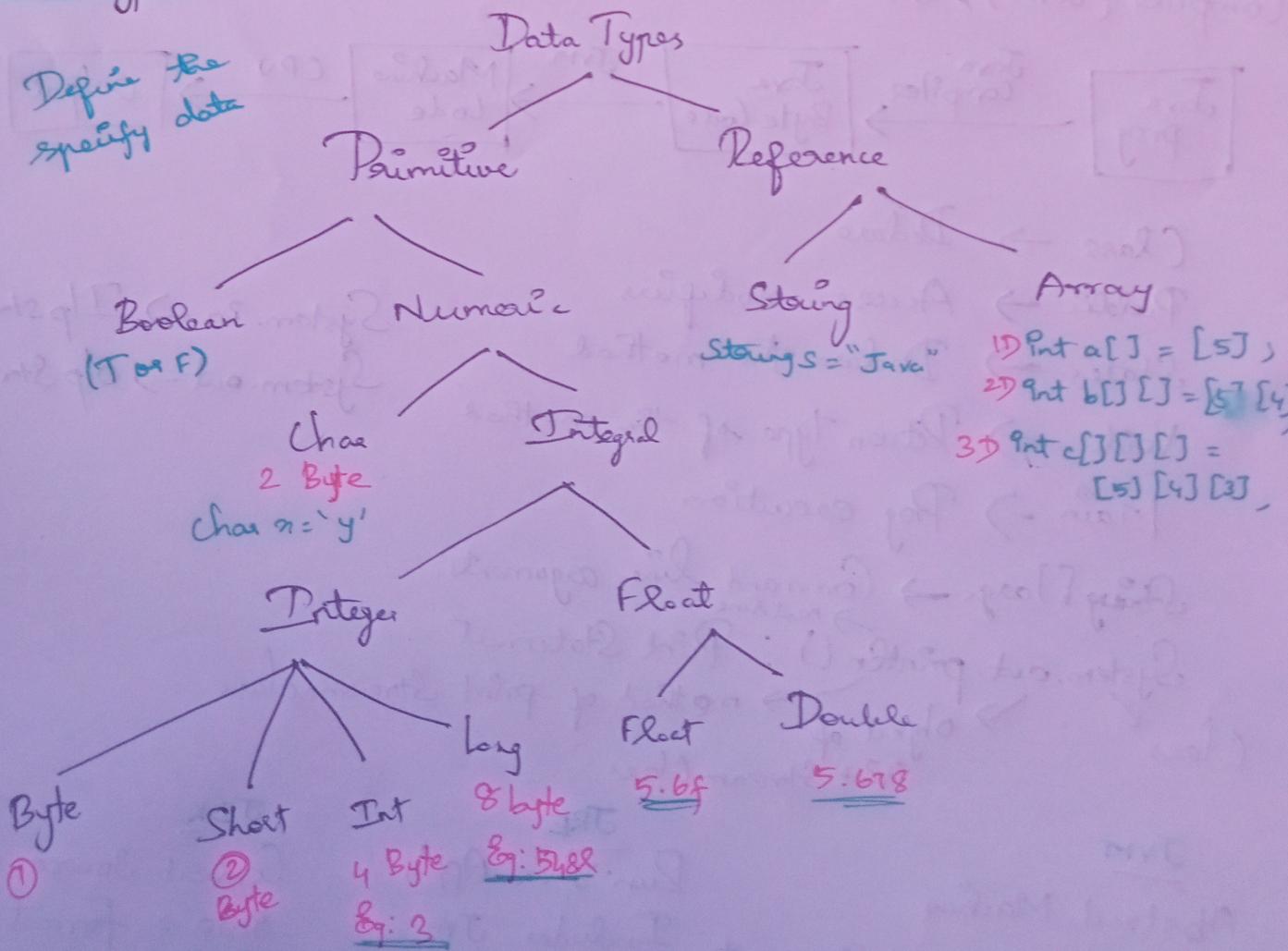
10  
20  
30

Byte =  $-2^7$  to  $2^7 - 1$

= -128 to 127

## Data Types:

Define the  
specify data



## Type Casting:

Data from One Type to another

Implicit Widen

Small to large

Byte → Short → Char → Int → Long →  
Float → Double

Eg: 8  
8.0

Explicit Narrow

Large to small

Double → Float → Long → Int → Char  
Byte ← Short

Eg: 10.0  
10

## Variables:

It is an Identifier. Store value of the specific datatype.

Syntax: datatype varialuename;  
int a; → Should not be keyword, does not include spaces & symbols.

## Types:

### Instance

Variable declared  
inside the class &  
outside the method

Stored on heap  
default values

Never Support Global variables:

We can declare anything within the class. But

Global variables are declared out of the class.

Hence, Syntax error or Compile time error.

Eg:

```
class variable {
```

```
    int a = 10; // Instance
```

```
    static int b = 20; // Static
```

```
    public static void main (String [ ] args) {
```

```
        int c = 30; // Local
```

```
        Var v = new Var();
```

```
        System.out.print ("Instance is " + " " + v.a);
```

Instance  
variables  
should be  
declared in  
new variable

→ new var