Java : Java is pure object and platform independent programming language.

Initial name of java is Oak. In Nov 1995 rename to Java.

James gosling and team.

Java was belong to sun micro system now it is a part oracle.

Version

1.0, 1.2, 1.4 1.7

1.8 big changes

Java 8

Java 10

Java 11

Java 15

Java 20 release.

From java 11 onward java is not open source.

OOPs

Object Oriented Programming system

object : any real world entity.

Property or state --→ have -→ name, age, weight, colour etc. → variable / fields

Person

Behaviour -→do/does --→ teaching(), typing(), talking() etc. → functions/ methods

Bank

Animal

Customer

Employee

Wheel, price, colour etc

Car

Start(), appliedGear(), moving(), stop() etc.

Account

class : Blue print of object or template of object or user defined data type which help to create the object.

syntax

```
class ClassName {
        property or variable
        method or functions;
        pre defined method ie main method
        public static void main(String args[]) {


        }
}
```

Whenever we write class. class must be follow pascal naming rules.

1. If class contains one word. First letter upper case.
2. If class contains more than one word each word first letter upper case.
3. Test, TestDemo, Employee, EmployeeInfo etc.

```
class Demo {
        public static void main(String args[]) {
                System.out.println("Welcome to Java ");
        }
}
```

IDE

Eclipse

package : collection of classes and interface.

Variable : variable is a name which hold some values. Value can be change during the execution of a program.

a=10;

Data types Data type is a type of data which tells what type of data it can hold.

2 types

1. Primitive data types : it is use to store only value.
   8 types
   a. byte 1 byte
   b. short 2 byte
   c. int 4 byte
   d. long 8 byte without decimal
   e. float 4 byte
   f. double 8 byte with decimal
   g. char 2 byte any single character
   h. boolean 1 bit true or false.
2. Non primitive data types or reference data type: it is use to store value as well as reference of another data types.

To declare the variable syntax

datatype variablename;

datatype variablename=value;

if variable declared inside a method that values doesn't hold any default value we need to assign.

Type casting

Converting from one data type to another data type is known as type casting.

2 types

1. Implicit type casting
2. Explicit type casting

byte a=10; range -128 to 127.

short b=a; implicit type casting

short c =10;

byte d = c; error

byte d = (byte)c; explicit type casting

----→ Implicit

byte short int long

←- explicit

-→ implicit -→

int float

←- explicit

In java by default every decimal number consider as double. Double memory size is 8.

int age;

byte age;