Java

Computer understands binary language(1s and 0s)

LowLevel Language - Assembly language (Close to machine understandable)

HighLevel ProgrammingLanguage Languages - C, C++, Java, Python, Ruby...

C, C++ are considered low level

Compiler - This takes entire code as input at once and Intermediate

object code is generated by compiler.

c,c++,scala, smalltalk

byte code(intermediate code) is object code which is actually processes by virtual machine,it is different

from macine code which processor can understand

Interpreter - It takes single line or instruction as an input and executes it

, no intermediate code generated , it is faster, memory requirement is less

compiler /interpreters are softwares.

Ruby, Python

int add(int a, int b){

int sum = a+b;

return sum;

}

Hello.java --> Hello.class(byte code)-> understood by virtual machine

and it should be converted to binary code

Java follows WORA principle(write once and run anywhere) - as it is system independent

System Independent Language - can be executed on any machine irrespective of which OS

you have used to write and compile the code.

System dependent Language - need to compiled again if you want to exceute in

some other machine with different OS.

JVM(java virtual machine) is software system dependent but it makes Java language system independent.

Features:

Simple

ObjectOriented - Everything in Java is inside a class and they are accessed using objects for class

SystemIndependent

Distributed- can communicate over network applications and with protocols tcp/ip , udp

It became popular for internet based appications which desire system independent feature

Robust- supports good exception handling mechanisms and it handles memory and deallocation internally

(by jvm)

Secure

MultiThreaded

Download:

http://www.oracle.com/technetwork/java/javase/downloads/index-jsp-138363.html

click jdk download

accept agreement

Java SE Development Kit 8u121 - under this download your OS specfic executable

Go to downloads-> double click the executable

Set Env variables- JAVA\_HOME -C:\Program Files (x86)\Java\jdk1.8.0\_101

edit path variables and add C:\Program Files (x86)\Java\jdk1.8.0\_101\binary

After you download Java- observer the downloaed folders-we see

Java- jdk - jre

Java is case sensitive:

single line comments: //

multi line comments:/\* \*/

Class: Class is a blueprint that defines variables(properties) and methods(actions).

Object: Object is instance of class which allows to access properties and methods of class.

Object is the things which you see in real world - Animal, Vehicle, Printer, Mobile, Loan, Account,Customer etc

Class Animal{

//variables- properties

String name;

String breed;

String color;

//methods

public void eatFood(){

}

public void displayDetails(){

}

}

Animal a1 = new Animal();

a1.name="punto";

a1.color="white";

a1.eatFood();

Animal a2 = new Animal();

a2.name="princess";

a2.color="brown";

a2.eatFood();

public class Calculator{

public int add(int a, int b){

return a+b;

}

}

Explain what this syntax is meant for:

A{

call B class methods - B call C class methods

}

public static void main(String[] args){

A a = new A();

a.logic();

}

public - accessable from anywhere

static- Can be accessed ithout creating object

- to call statci method or variable we do not need to create object

void- method is not returning anything back to whoever is calling the method

main- this is the main method that jvm looks for to start java program execution

String[] args- method input parameters

[]- means its list/array of string elements

AccessModifiers- to define scope of class, method and variable

public

private

protected

package

Idetifier Rules & Naming Convetions

variable syntax :

accesModifier dataType nameOfVariable;

eg:

public int id=10;

public String name=”Alan”;

method synatax:

access modifier returnType/output methodName(input parameters){

}

return type and input parameters are not mandatory to be present in every method.

access modifier returnType/output methodName(){

}

access modifier void(not returning anything) methodName(){

}

access modifier void(not returning anything) methodName(input parameters){

}

variable scopes

IDE- Integrated development Environment

Java- Eclipse, IntellijIdea, NetBeans

Javascript- webstorm, phpstorm, cloud9

Python.

Eclipse download: <https://www.eclipse.org/downloads/>?

Maven – build tool – this does not replace eclipse