1. Differentiate between JDK, JRE and JVM

Ans:

JVM(Java Virtual Machine) is like a software which loads .class file which is created by compiler(high level code to bytecode) and executes

JRE(Java runtime environment) is a environment used to run an application which is already developed. JRE doesn’t supports for developing an application. It contains JVM

JDK(Java Development Kit) is a toolbox which is used to develop an application, run an application. So it contains both JRE and JVM.

JVM = software used to execute .class file

JRE = JVM + libraries to run an application

JDk = JRE + tools to develop an application.

2. Outline the major Java features?

Ans:

Java supports WORA (Write Once Run Anywhere)

So its platform Independent.

Security levels High compared with c and c++.

Java is a complete object oriented language.

Supports Inheritance , polymorphism, Interface concept, static and dynamic binding.

But in java memory usage is more.

3. Explain public static void main(String args[])

Ans:

* Arguments passed in command line are taken as strings only
* Arguments stored in the array args[]
* It is a main method
* The class which contains main method is a base class
* Program will start its execution from main class

4. What are constructors in Java?

Ans:

Constructors should have the same name as its class.

It initializes when the object is created.

Constructors are three types:

1. Copy constructor
2. Default constructor
3. Parameterized constructor

5. How Java enabled High Performance?

Ans:

By using objects, we can go which method we want, this will decrease execution time.

By using threads we can share task, so that task can be completed intime. So CPU utilization is more by executing multiple processes at a time.

Converting high level code to machine code takes time, but executing .class file in JVM is faster.

6. Can we overload the constructors ? Explain with an example.

Ans:

Yes we can.

Parameterized constructors can be overloaded.

public class Example

{

public static void main()

{

System.out.println(“main class”);

Subclass() ob=new Subclass(10,20);

Subclass() ob=new Subclass(10);

}

}

public class Subclass

{

int a,b;

Subclass(a,b)

{

System.out.println(“a:”+a+” b:”+b);

}

Subclass(a)

{

System.out.println(“a:”+a);

}

}

7. What is the output of the following Java program

class Test

{

public static void main (String args[])

{

System.out.println(10 + 20 + "Javatpoint");

System.out.println("Javatpoint" + 10 + 20);

}

}

Output:

30Javatpoint

Javatpoint30

8. What is the output of the following Java program

class Test

{

public static void main (String args[])

{

System.out.println(10 \* 20 + "Javatpoint");

System.out.println("Javatpoint" + 10 \* 20);

}

}

Output:

200Javatpoint

Javatpoint200

9. What are the primitive data types in Java?

Ans:

Byte : 1 byte

Char : 2 bytes

Short : 2 bytes

Int : 4 bytes

Long : 8 bytes

Float : 4 bytes upto 6 digits after decimal

Double : 8 bytes upto 15 digits after decimal

String

11. Predict the output of following Java program.

class Main {

public static void main(String args[]) {

int t;

System.out.println(t);

}

}

Output:

Garbage value

13. What is type casting?

Ans:

Type casting is a conversion of one data type to another datatype.

14. Difference between implicit and explicit type casting. Explain with examples.

Ans:

Implicit type casting:

Type casting from low level datatype to high level datatype

Ex: short ---> int long

Byte -----> short int long

float ----> double

Explicit type casting:

Type casting from high level datatype to low level datatype

Ex: double ----> float

Long ----> int, short, byte

public class Example

{

Public static void main(String args[])

{

int i=10; //implicit

float f=i; //implicit

long l=i; //implicit

long int ln=100L;

int a= (long)ln; //explicit

float ft=128f;

i=(float)ft;

System.out.println(f+“ ”+a+);

}

}

15. What kind of variables a class can consist of ?

Ans:

There are three types of variables in java.

1. Global variables: Which can use throughout the program.
2. Local variables : Its lifetime is within the block where it is declared
3. Static variables : By default , its values is set to zero. Static variable value is start from where it end.

16. What are the various access specifiers in Java?

Ans:

1. Public :The variables and methods which are specified as public can be used within the class, outside the class as well as inherited class.
2. Private : The variables and methods declared as private can only useful within the class only.
3. Protect : the variables and methods declared as protected can be used in within the class and inherited class, but not outside the class.

19. Explain the types of operators used in Java?

Ans:

Operators in java:

Arithmetic operators:

+(addition)

-(subtraction)

\*(multiplication)

/(division)

%(modulus)

Assignment operators:

= , += , -=, /=, \*=, %=

Relational operators:

== , <= , >= , !=

Bitwise operators:

& (AND) , |(OR ), ^(XOR) , ~(NOT)

Logical operators:

&& , || , !

Boolean operators:

True , false

Unary operators:

++a(pre increment)

a++(post increment)

--a (pre decrement)

a-- (post decrement)

Ternary operators:

? :

20. Predict the output of following Java program

class Test

{

public static void main(String args[])

{

String s1 = "geeksquiz";

String s2 = "geeksquiz";

System.out.println("s1 == s2 is:" + s1 == s2);

}

}

Output:

Strings directly cannot compare

21. What are control statements and explain different kinds of control statements used in java?

Ans:

Conditional statements:

1. If statement : It executes only the statement is true
2. If else statement : First it checks if condition,if it is true, then it will executes, otherwise it will go to else part.
3. Else if ladder : It contains multiple if else statements. It checks first if statement, if statement is true, then it will executes and omits all the other statements, if statement is false, then it will continues the process until one statement is true.

Loops:

1. for(initialization ; condition ; increment): it executes until the condition is fail
2. while(condition) : generally it is used for the statement where a block has to run repeatedly.
3. Do….. while : loop will execute first, then it will checks the condition

Switch : It is used when a condition is true for the following conditions

Break : break is used to stop a loop

Continue : it is used to skip one iteration.

22. What will be the output of the following program?

class IfExample

{

public static void main(String s[])

{

if( 1 < 2 )

{

System.out.println("1 is less than 2");

}

else

System.out.println("2 is less than 1");

System.out.println("Hello From IfExample");

}

}

Output:

1 is less than 2

23. What will be the output of the following program.

class HappyNewYear

{

public static void main(String s[])

{

int code = 3;

switch(code)

{

case 1:

System.out.println("Wish");

case 2:

System.out.println("You");

default:

System.out.println("A");

case 3:

System.out.println("Happy");

case 4:

System.out.println("New");

case 5:

System.out.println("Year");

}

}

}

Output:

A Happy New Year

24. What will be the output of the following program?

public class TechMan {

public static void main(String[] args) {

int x = 1;

int y = 6;

while (y--) {

x++;

}

System.out.println("x = " + x + " y = " + y);

}

}

Output:

x=7 y=0

25. What will be the output of the following program?

class ForSample

{

public static void main(String s[])

{

for(int i = 0; i <= 5; i++ )

{

System.out.println("i = " + i );

}

System.out.println("i after the loop = " + i );

}

}

Output:

i=0

i=1

i=2

i=3

i=4

i=5

i after the loop= 6