Assignment-5

Q1.What is platform independent and dependent among JDK, JRE, JVM?

JVM, JRE and JDK all three are platform-dependent but the thing is that the .class file which is created after the execution of the java file act as a platform-independent. This is why Java language is known to be platform independent langugage as it is available across various platforms available in the market right now.

Q2.Can we use JRE without downloading JDK?

JDK is required to built java applications and that is required by the developers. For a normal user, JRE will do most of the work for them. So, JRE can be used without installing the JDK.

Q3.Explore JConsole.

JConsole is a tool that is used to monitor the different prospects of a java programme that is currently running on your device. It shows the various graphs such as Memory usage, Threads, CPU Useage and Classes. So it gives you an overview of all the things which are going on with the java programme.



Q4.Explore JIT.

At run time, the JVM loads the class files, the semantics of each are determined, and appropriate computations are performed. The additional processor and memory usage during interpretation make a Java application perform slowly as compared to a native application.

The JIT compiler aids in improving the performance of Java programs by compiling bytecode into native machine code at run time.

Q5.Explore the .class file

The file appears to be in the non-human readable format.

Q6.Difference Between Access Modifiers and Access Specifiers.

An access specifier determines who can access the members of a class. Java provides three levels of access: Public, Private, Protected

An access modifier is a broader term that encompasses other types of restrictions that can be placed on members, such as final, static, abstract, etc. These access modifiers can be used in combination with the access specifiers to further restrict the visibility and usage of the members.

Q7.Can we have multiple main methods in a class.

No, you cannot overload or override the public static void main(String[] args) method in Java. The main method is a special method that serves as the entry point for a Java program, and it must have the exact signature specified above in order to be recognized by the Java Virtual Machine (JVM) as the starting point for the program.

Q8.Can we overload and override main methods.

Yes, we can overload the main() method. But remember that the JVM always calls the original main() method. It does not call the overloaded main() method.

Q9.Can I write main method as private, Protected and Default.

No, you cannot write the main method as private, protected, or default in Java.The main method must be declared as public in order to be accessible from outside the class, and to be recognized as the starting point of the Java program by the Java Virtual Machine (JVM).

The public access modifier on the main method allows it to be called from outside the class, including by the JVM when it starts executing the program.

If the main method is declared as private, protected, or default, it will not be accessible from outside the class and the JVM will not be able to find and execute the method, causing the program to not run.

Q10. Without a main method can we execute our code

In Java, the public static void main(String[] args) method serves as the entry point for the Java Virtual Machine (JVM) to start executing a program. So, having a main method is necessary to run a Java program.

Q11. Can we change the return type of main.

No, you cannot change the return type of the public static void main(String[] args) method in Java. The main method must have a return type of void in order to be recognized by the Java Virtual Machine (JVM) as the entry point for a Java program.

The void return type indicates that the main method does not return a value. If you try to change the return type to a different data type, such as int or String, the JVM will not be able to find and execute the method, causing the program to not run.

Q12. Explore keyword strictfp.

strictfp is a keyword in Java used to indicate that a method or a class should use strict floating-point calculations. A strict floating-point calculation is a calculation that follows the rules defined by the IEEE 754 standard for floating-point arithmetic, which is a standard for representing real numbers in a computer.

By using the strictfp keyword, you ensure that your code will produce the same results on different platforms, regardless of the underlying hardware and operating system.

Q13.Codes

1)

2)  
class TypesOfVariable{  
 //instance variable  
 int result=0;  
 static int *count*=0;  
  
 public void add(){  
 //local variable  
 int number1=0,number2=0;  
 result = number1 + number2;  
 System.*out*.println(number1+" "+number2);  
 }  
  
  
 public void static\_variable(){  
 System.*out*.println("Static is: "+ *count*);  
 *count*++;  
 System.*out*.println("Now static is: "+ *count*);  
 }  
}  
public class VariableDemo {  
 public static void main(String[] args) {  
 TypesOfVariable tc = new TypesOfVariable();  
 tc.add();  
 tc.static\_variable();  
  
 }  
}

3) public class DataType{

public static void main(String[] args) {

int a=2238,b=23789;

int int\_sum=a+b;

System.out.println(int\_sum);

short as= 37,bs=34;

short shortSum= (short) (as+bs);

System.out.println(shortSum);

float af=1000.1f,bf=999.6f;

float floatSum=a+b;

System.out.println(floatSum);

double ad=188888.06666, bd=44444444444.7777777777;

double double\_sum=ad+bd;

System.out.println(double\_sum);

long la=1009999999,lb=677777777;

long long\_sum=la+lb;

System.out.println(long\_sum);

char ca='y',cb='f';

int char\_sum=ca+cb;

System.out.println(char\_sum);

byte ab=1,bb=6;

int sum= ab+bb;

System.out.println(sum);

}

}

4).jar file is created.

