

1. what is java?

Java is a programming language and computing platform first released by Sun Microsystems in 1995.

2. Explain all the java features in one or two lines.

A list of the most important features of the Java language is given below.

- Simple  
Java is very easy to learn, and its syntax is simple, clean and easy to understand. According to Sun Microsystem, Java language is a simple programming language
- Object-Oriented  
Java is an object-oriented programming language. Everything in Java is an object. Object-oriented means we organize our software as a combination of different types of objects that incorporate both data and behaviour.
- Portable  
Java is portable because it facilitates you to carry the Java bytecode to any platform. It doesn't require any implementation.
- Platform independent  
Java code can be executed on multiple platforms, for example, Windows, Linux, Sun Solaris, Mac/OS, etc. Java code is compiled by the compiler and converted into bytecode.
- Secured  
Java language provides these securities by default. Some security can also be provided by an application developer explicitly through SSL, JAAS, Cryptography, etc.
- Robust
  - It uses strong memory management.
  - There is a lack of pointers that avoids security problems.
  - Java provides automatic garbage collection which runs on the Java Virtual Machine to get rid of objects which are not being used by a Java application anymore.
- Architecture neutral  
Java is architecture neutral because there are no implementation dependent features, for example, the size of primitive types is fixed.
- High Performance  
Java is faster than other traditional interpreted programming languages because Java bytecode is "close" to native code.
- Multithreaded  
A thread is like a separate program, executing concurrently. We can write Java programs that deal with many tasks at once by defining multiple threads.
- Distributed  
Java is distributed because it facilitates users to create distributed applications in Java. RMI and EJB are used for creating distributed applications.
- Dynamic  
Java is a dynamic language. It supports the dynamic loading of classes. It means classes are loaded on demand.

3. In which folder can we find the javac, java, javah, javarmi commands?

We can find javac, java, javah, javarmi commands in "C:\ProgramFiles\Java\jdk1.8.0\_05\bin" folder.

4. what all the environment variables to set to run the java programs through command prompt?

Below are the environment variables need to be set to run java programs through command prompt:

JAVA\_HOME = C:\Program Files\Java\jdk1.8.0

PATH = PATH + C:\Program Files\Java\jdk1.8.0\bin

5. what are the rules of naming the class

Rules of naming the class:

- a. Class names should be nouns, in mixed case with the first letter of each internal word capitalized.
- b. Try to keep your class names simple and descriptive.

- c. Use whole words-avoid acronyms and abbreviations (unless the abbreviation is much more widely used than the long form, such as URL or HTML).
- 6. which is the main entry point of java program  
The Java main method is the entry point for executing a Java program. The main method can contain code to execute or call other methods, and it can be placed in any class that's part of a program.
- 7. components of java program are?  
Components Of a Java Program:
  - a. Module
  - b. Package
  - c. Class
  - d. Variable
  - e. Statement
  - f. Method
  - g. Constructor
  - h. Inner Class
- 8. what is jvm,jre,jdk?
  - a. JVM: Java Virtual Machine (JVM) is an abstract machine responsible for compiling and executing Java code. It is a part of the Java Runtime Environment (JRE) which calls the main function of a program.
  - b. JRE: JRE is software that includes JVM and class libraries to run java programs independently. Although it can execute the code. Yet, JRE comes bundled with Java development Kit (JDK) to provide a complete application development experience.
  - c. JDK: Java Development Kit (JDK) is a complete software environment for building applications and applets using the Java programming language. It is platform-dependent. Therefore, it has different OS platform versions for Windows, Linux, Mac, etc. It allows to read, write, and execute the java program.
- 9. Explain the components of compile time environments and run time environments.  
Components of Runtime environment:
  - a. Source code.
  - b. Interpreter.
  - c. Byte code.Components of Compile-time environment:
  - a. JVM.
  - b. API.
  - c. Operating system.
  - d. File system.
- 10. what is JIT?  
JIT is Just In Time compiler. Used to speed up the process of compiling.
- 11. Different types of memory in jvm.  
Method.  
Stack.  
Heap.  
PC.  
Native method stack.
- 12. In which area .class is stored?  
Method.
- 13. In which area object are stored?  
Heap.

14. Why do we call as java simple?  
Java is simple because it does not have pointers, structures and unions.  
Automatic memory management by garbage collection process.  
Java does not support multiple inheritance.
15. Why java is platform independent explain?  
Java is platform independent because it follows the principle WORA(write once read anywhere).
16. Is jvm platform dependent??  
Yea JVM is platform dependent.
17. Is java case sensitive?  
Yes, java is case sensitive.
18. Is java complete object Oriented programming language?  
Yes, java is completely object oriented programming language. But some people says that java is not completed OOP's language because of some restrictions in terms of variables. But now it is completely OOP's language due to wrapper class.