1) What is the difference between JDK, JRE and JVM?

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| **JDK** | **JRE** | **JVM** |
| It stands for Java Development Kit. | It stands for Java Runtime Environment. | It stands for Java Virtual Machine. |
| It is the tool necessary to compile, document and package Java programs. | JRE refers to a runtime environment in which java bytecode can be executed. | It is an abstract machine. It is a specification that provides run-time environment in which java bytecode can be executed. |
| Along with JRE, it includes an interpreter/loader, a compiler (javac), an archiver (jar), a documentation generator (javadoc) and other tools needed in Java development. In short, it contains JRE + development tools. | It implements the JVM (Java Virtual Machine) and provides all the class libraries and other support files that JVM uses at runtime. So JRE is a software package that contains what is required to run a Java program. Basically, it’s an implementation of the JVM which physically exists. | JVM follows three notations: Specification(document that describes the implementation of the Java virtual machine), **Implementation**(program that meets the requirements of JVM specification) and **Runtime Instance**(instance of JVM is created whenever you write a java command on the command prompt and run class). |

2) What is Class Loader?

Classloader is a subsystem of JVM which is used to load class files. Whenever we run the java program, it is loaded first by the classloader. There are three built-in classloaders in Java.

1. **Bootstrap ClassLoader**: This is the first classloader which is the superclass of Extension classloader. It loads the *rt.jar* file which contains all class files of Java Standard Edition like java.lang package classes, java.net package classes, java.util package classes, java.io package classes, java.sql package classes, etc.
2. **Extension ClassLoader**: This is the child classloader of Bootstrap and parent classloader of System classloader. It loads the jar files located inside *$JAVA\_HOME/jre/lib/ext* directory.
3. **System/Application ClassLoader**: This is the child classloader of Extension classloader. It loads the class files from the classpath. By default, the classpath is set to the current directory. You can change the classpath using "-cp" or "-classpath" switch. It is also known as Application classloader.