System dependent language:

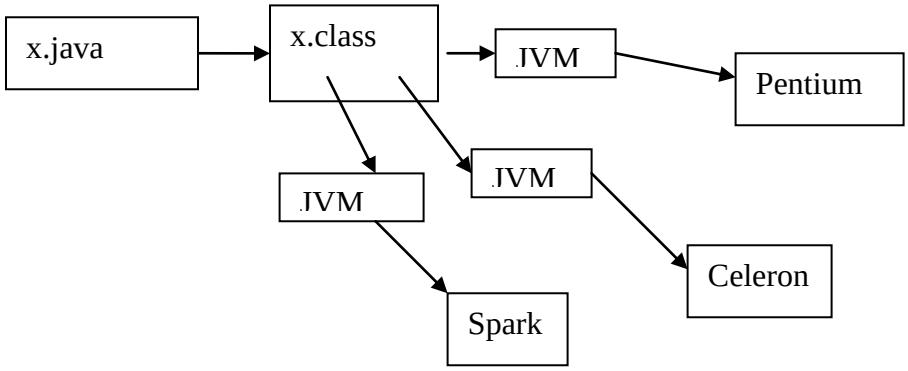
It is a language where the program can be executed on the system where it is developed (on what system we are writing the program) also called as platform dependent languages.

Examples: C,C++

C and C++ are not suitable for Internet. They can download the program but cannot run.

System independent language:

Java is suitable for Internet. It is a system independent language.



x.class file is created during compile time (it has byte code instructions).
Here the three JVMs are system dependent and are different.

Byte code instructions:

Byte code instructions are special instructions where the size of each instruction is 1 byte. There are around 220 (approximately) byte code instructions. Byte code instructions are separately developed by Java developers. These byte code instructions are not for the microprocessor. These are understandable to JVM (Java virtual machine). JVM is a program developed using c language. JVM converts bytecode to machine language instructions. Now microprocessor can understand

machine language instructions and execute them. JVM understands the processor we are using and converts it to Celeron or Pentium or Spark or else processor understandable machine language code accordingly. JVM program can be freely downloaded from Internet (Sun microsystem website). JVM for UNIX, JVM for LINUX, JVM for Macintosh etc., are available.
.class file is system independent and same every where.

Important interview question:

Q)What is the difference between .exe and .class file?
A).exe file contains machine code understandable to the microprocessor. It is system dependent.
.class file contains byte code for the JVM. It is system independent.
Java write once run anywhere.

Security problems on Internet:

1) **Eves dropping:** Reading others data illegally on the Internet is called as eves dropping.
2) **Tampering:** Modifying the real mails and misleading is known as tampering.
3) **Impersonation:** A person acting as another person on the Internet is known as impersonation.
4) **Virus:** It is a harmful program that can damage the data, software, hardware. First virus in the world was developed by the Pakistanis. Virus spreads with .exe, .com, .sys, .doc files easily. .txt files cannot be affected with virus.

Encryption/Decryption:
Encryption means converting to another language. Decryption means again converting back to our language (done in Java for the above said problems eves dropping and tampering).
Digital signature:
It is a solution to impersonation. It is a file containing personal identification info.
.class files are like text files that cannot spread virus on the Internet.
.class files:
.exe files carry virus where as .class files cannot carry virus. .class file is a solution for virus.
Problem of virus can be rectified by java programs only.

Embedded system and software:

It is included internally for remotes of TV, car etc., in programs.

Origin of Java:

James Gousling (team leader) along with his associates developed Java. Initially in 1990 they worked for Sun micro systems inc., US. Different stories are there in the evolution of Java.
Some say that initially it's OAK but as that name being already registered, latter changed to Java. Most of us believe that Java's name came from tea. While writing programs they got stimulation and great ideas with Java tea and as it is available in Java islands they named it as Java.