Features of Java

1) Simple :

- Simple Syntax.
- No Pointers, No Multiple Inheritance with the classes which causes ambiguity error.
- For almost every task API (*Application Programming Interface*) is available; Programmer just need to know how to use that API.

2) Object Oriented :

- Java is strong object oriented as it does not allow features like ***Global Data***, ***Friend Function*** which are against OOP principles.

3) Automatic Garbage Collection :

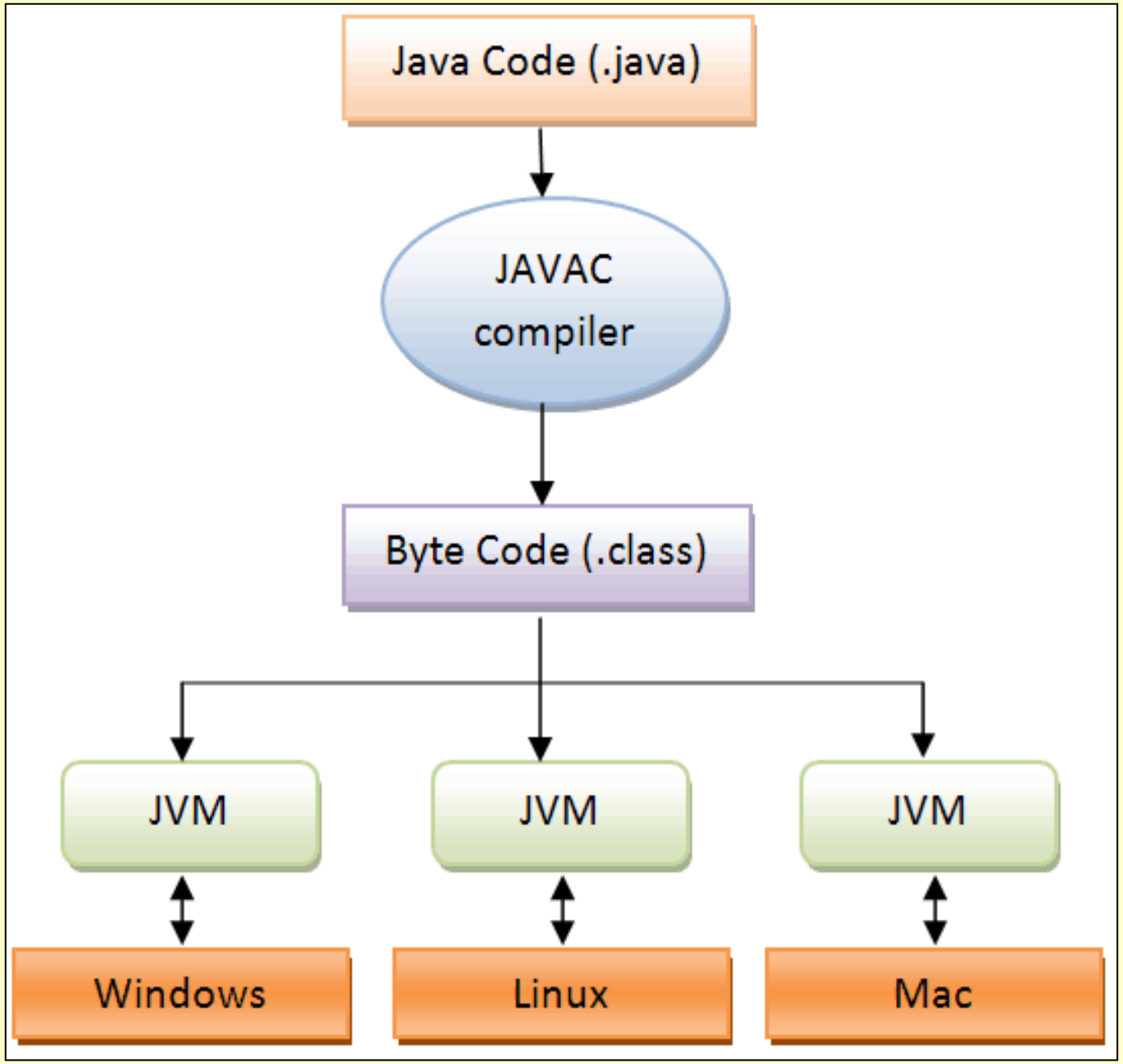
- Automatic garbage collection is the process of looking at heap memory, identifying which objects are in use and which are not, and deleting the unused objects.
- An in use object, or a referenced object, means that some part of your program still maintains a pointer to that object.
- An unused object, or unreferenced object, is no longer referenced by any part of your program.
- So the memory used by an unreferenced object can be reclaimed.

4) Robust :

- Robust means strong.
- Java puts a lot of emphasis on early checking for possible errors, as Java compilers are able to detect many problems that would first show up during execution time in other languages.
- It provides the powerful exception handling and type checking mechanism as compare to other programming languages.

5) Platform Independent :

- Unlike other programming languages such as C, C++ etc. which are compiled into platform specific machines.
- Java is guaranteed to be compile-once, run-anywhere language.
- On compilation Java program is compiled into bytecode.
- This bytecode is platform independent and can be run on any machine.
- Any machine with Java Runtime Environment can run Java Programs.


Java Code (.java)
JAVAC compiler
Byte Code (.class)
JVM
JVM
JVM
Windows
Linux
Mac

6) Secure :

- If a bytecode contains any virus or malicious code, JVM will not execute it.

- This features saves your system especially when you download java code and try to execute.

7) Multi Threading :

- Java multithreading feature makes it possible to write program that can do many tasks simultaneously.

8) Portable :

- Java Byte code can be carried to any platform.

9) Architectural Neutral :

- No implementation dependent features.
- Everything related to storage is predefined, example: size of primitive data types.

10) High Performance :

- Java enables high performance with the use of Just-In-Time (JIT) compiler.