Advantages of Methods :
----
1) Modularity :
----
* Dividing the bigger task into number of smaller task where each task can perform indpendent function.

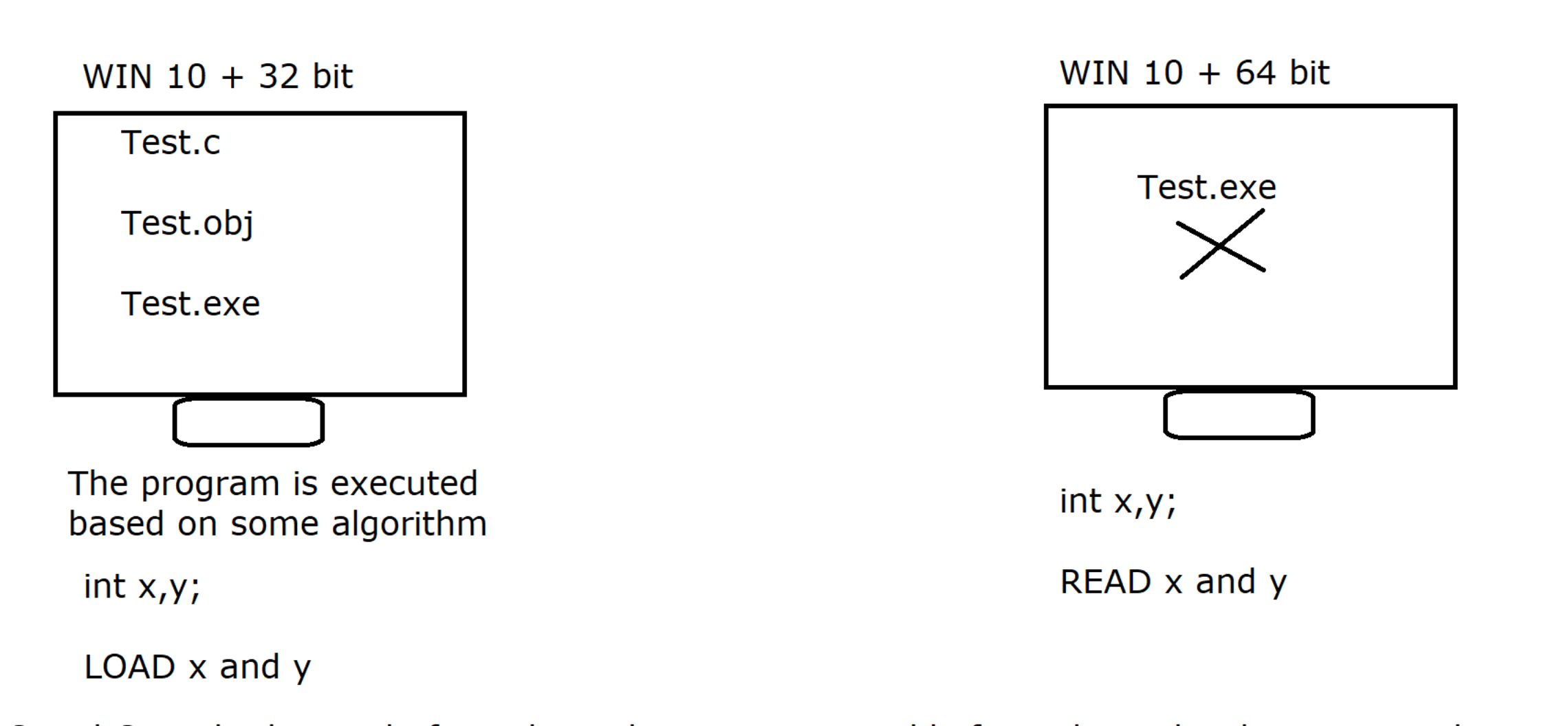
2) Easy Understanding :
----
* Once the task is divided into number of individual modules then it is easy to understand the entire program.

3) Reusability :
----
* We can reuse a particular module for 'n' number of times. In java we can reuse java classes.

4) Easy debugging :
----
* One module is isolated with another module so de-bugging becomes easy because we can debug a particular for syntex OR Semantics verification.

What do you mean platform independency in java ?
----
* C and C++ programs are platform dependent programs because for execution purpose it depends upon same system configuration.

* The .exe file created on one machine will not be executed on another machine, if there is a change in system configuration.



The program is executed based on some algorithm

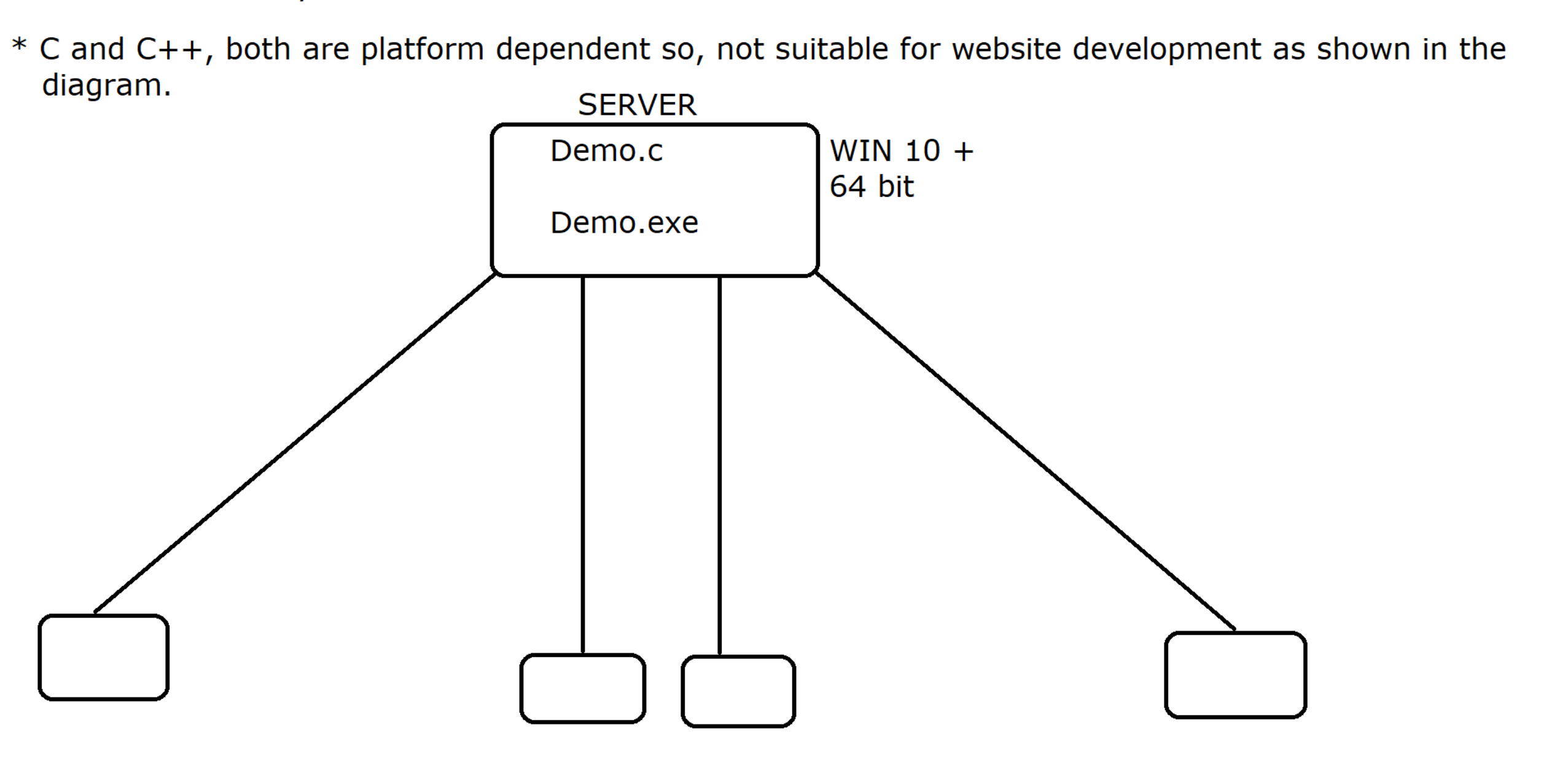
int x,y;

LOAD x and y

int x,y;

READ x and y

* C and C++, both are platform dependent so, not suitable for website development as shown in the diagram.



How Java is platform independent langauge ?

Test.java (source code)

javac (java compiler)

Test.class (byte code)

JVM

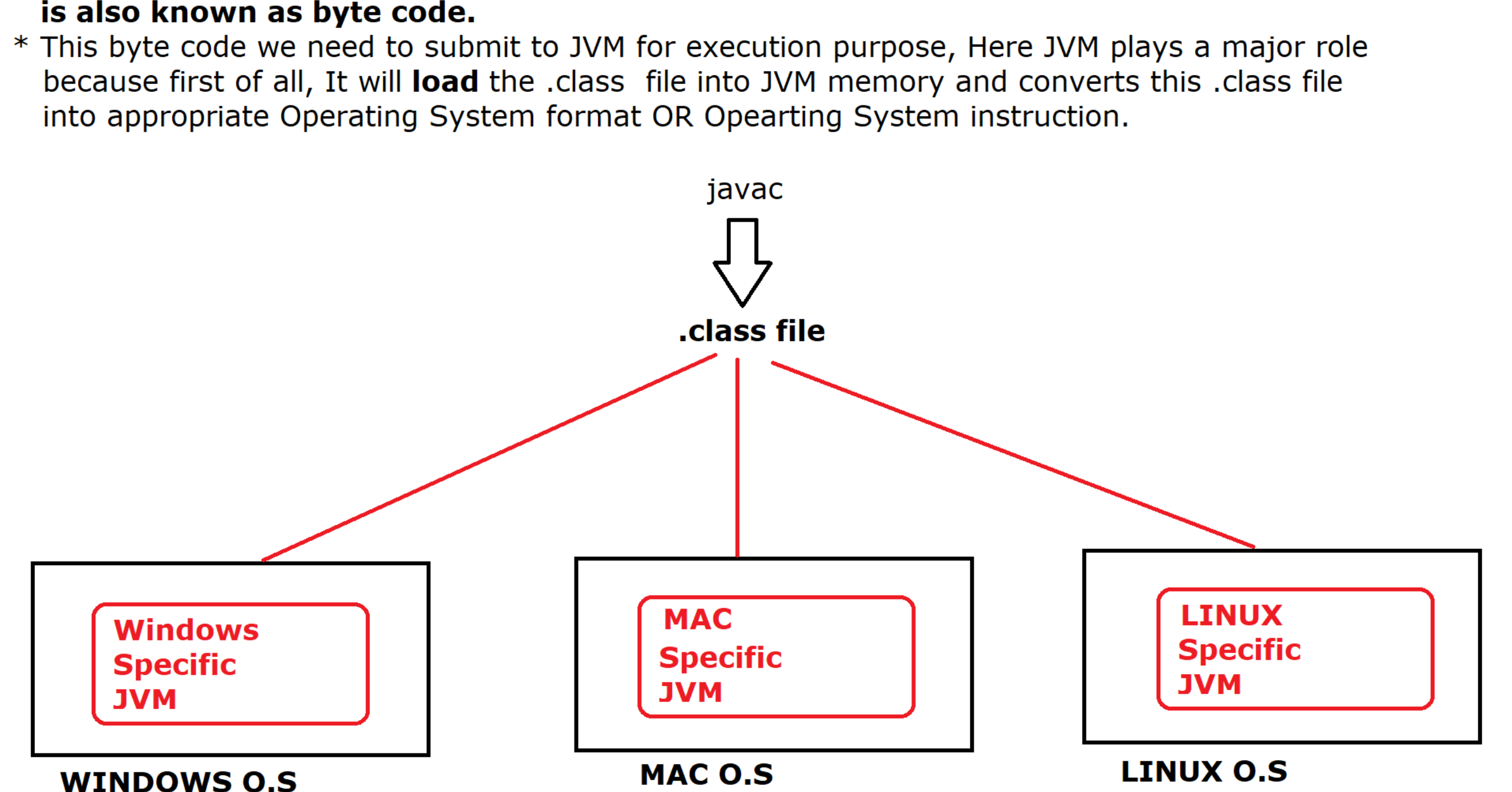
Output of Program

Role of Java Compiler :
----
1) Syntax Verification
2) Will verify the compatibility issue [L.H.S = R.H.S]
3) Will convert source code into **byte code**.

JVM :

It stands for Java virtual Machine, Internally it contains an interpreter which will execute the program line by line. It is written by using 'C' language.

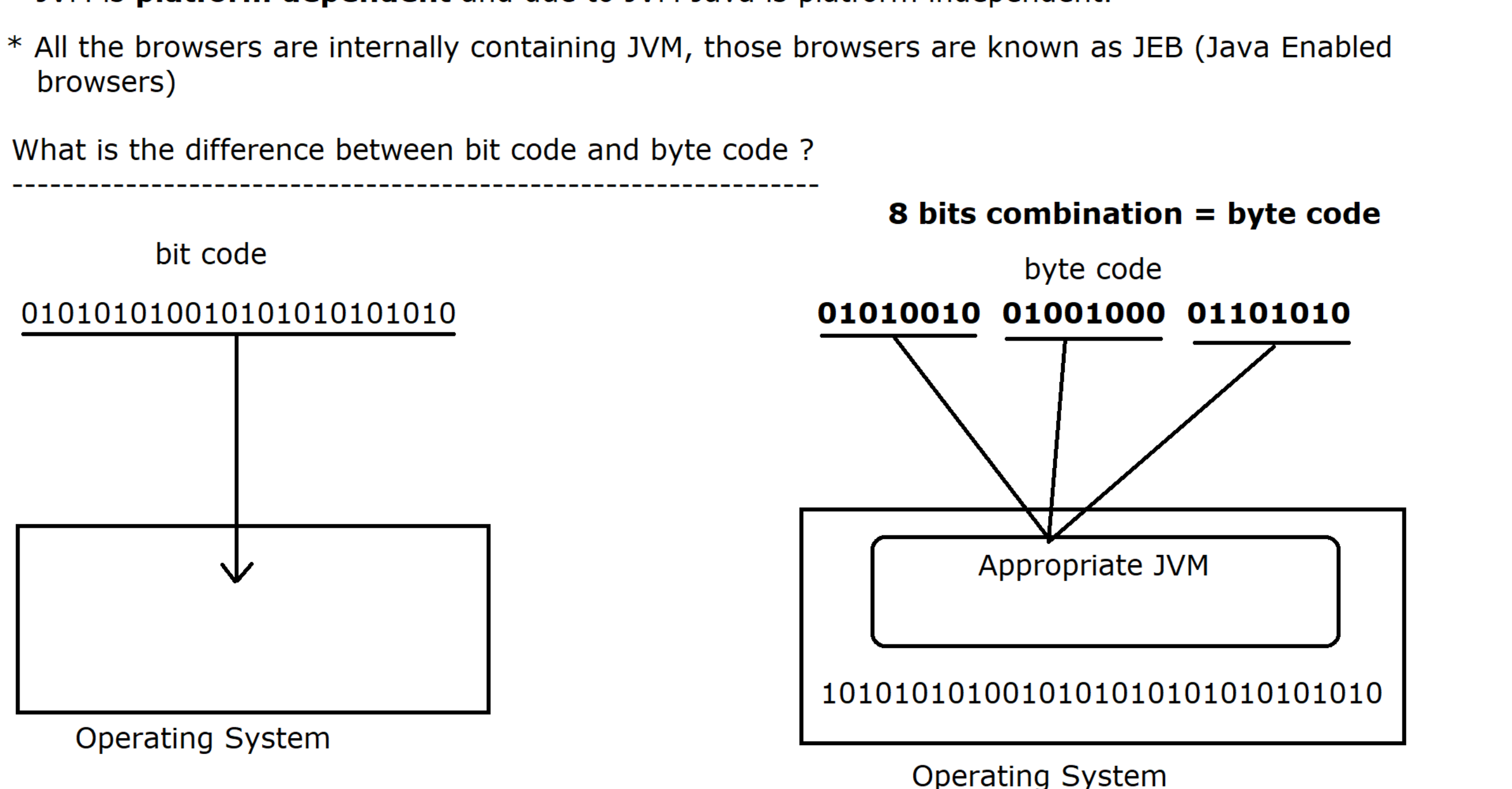
* The extension of java program must be .java, now .java file we submit to our java compiler for compilation process.
* After successful compilation, Java compiler will generate a very special file called **.class file which is also known as byte code.**
* This byte code we need to submit to JVM for execution purpose, Here JVM plays a major role because first of all, It will **load** the .class file into JVM memory and converts this .class file into appropriate Operating System format OR Opearting System instruction.



* JVM is **platform dependent so,** We have different different JVMs for different O.S.
* JVM is **platform dependent** and due to JVM Java is platform independent.

* All the browsers are internally containing JVM, those browsers are known as JEB (Java Enabled browsers)

What is the difference between bit code and byte code ?



* bit code can be directly understood by O.S but byte code we need to submit to JVM, JVM will convert the byte code into appropriate O.S format.