Why functions are called method in Java ?

* In older language like C++, We can write a function **inside the class** as well as **outside of the class by using scope resolution operator (::)**

```
function  <=  public void m2() //Outside of the class by using ::
              {
              }

              class Test
              {
Method    <=     public void m1() //Inside a class
                 {
                 }
              }
```

* In Java, we **cannot** write a function outside of the class that means In java langauge, each and **every function must be written inside the class only that is the reason functions are called in method.**

* From Java 25V, If a developer does not write a class then automatically **Java compiler will add a class which is based on the file name of java.**

Example :

Test.java

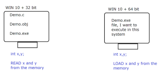
```
void main()
{
    IO.println("Welcome to Java");
}
```

=> javac =>

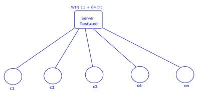
Test.class (bytecode)

```
public final class Test
{
  void main()
  {
    IO.println("Welcome to Java");
  }
}
```

**What is platform Independency in Java ?



* C and C++ programs are **platform dependent program** that means the **.exe file created on one machine will not be executed on another machine, If there is a change in system configuration**.



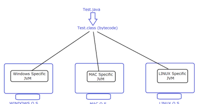
* C and C++ programs are not suitable for website developement OR Web application development.

How java is platform Indepenedent ?

Test.java (Source Code)
⇩
java compiler (javac)
⇩
Test.class (bytecode)
⇩
JVM (Java Virtual Machine)
⇩
Output

Role of Java Compiler :

1) Syntax Verification
2) Compatibility issues (L.H.S = R.H.S)
3) Will convert the **source code** into **bytecode**



Java is a platform independent language. Whenever we write a java program, the extension of java program must be .java.

Now this .java file we submit to java compiler (javac) for compilation process. After successful compilation the compiler will generate a very special byte code file i.e. .class file (also known as bytecode). Now this .class file we submit to JVM for execution purpose.

The role of JVM is to **load and execute** the .class file. Here JVM plays a major role because it converts the .class file into appropriate machine code instruction (Operating System format) so java becomes platform independent language and it is highly suitable for website development.

Note: - Each OS (Windows, Linux, Mac) has its own JVM implementation that means JVM is **platform dependent** technology whereas Java is platform independent technology.

JVM internally contains an interpreter so it executes the code line by line. It is written in 'C' language hance platform dependent.

Note: All the browsers internally contain JVM are known as
JEB (Java Enabled Browsers) browser.
