# **Similarities/Dissimilarities between Java and C++**

1. **Object Oriented Programming:** Both are object oriented programming. Both the languages provide object oriented features such as classes, object, data abstraction, encapsulation....etc. But C++ is considered as a partially object oriented programming language because it supports both procedure oriented features and object oriented features too.
2. **Go to Statement:** Java does not support go to statement but C++ supports it.
3. **Platform independence:** Java is platform-independent but C++ is platform depended.
4. **Multiple inheritance:** Java doesn't support multiple inheritance through class but C++ supports multiple inheritance. This is one of the main differences between the two.
5. **Thread support:** Java has built in support for threads. In Java, there is a Thread class that you inherit to create a new thread and override the run() method. C++ has no built in support for threads. C++ relies on non-standard third-party libraries for thread support.
6. **Structure and Union:** Java doesn't support structures and unions but C++ supports structures and unions.
7. **Operator Overloading:** Java doesn't support operator overloading whereas C++ supports operator overloading.
8. **Application development:** Java is mainly used for application programming. It is widely used in window, web-based, enterprise and mobile applications. C++ is mainly used for system development.
9. **Pointers:** Java does not support pointers, templates, unions, operator overloading, structures etc. The Java language promoters initially said "No pointers!", but when many programmers questioned how you can work without pointers, the promoters began saying "Restricted pointers." Java supports what it calls "references". References act a lot like pointers in C/C++ languages but you cannot perform arithmetic on pointers in Java. References have types, and they're type-safe. These references cannot be interpreted as raw address and unsafe conversion is not allowed. C++ supports structures, unions, templates, operator overloading, pointers and pointer arithmetic.
10. **Garbage collection:** Java support automatic garbage collection. It does not support destructors as C++ does. C++ support destructors, which is automatically invoked when the object is destroyed.
11. **Default arguments:** Java does not support default arguments. There is no scope for resolution operator (::) in Java. The method definitions must always occur within a class, so there is no need for scope resolution there either. C++ supports default arguments. C++ has scope resolution operator (::) which is used to define a method outside a class and to access a global variable within from the scope where a local variable also exists with the same name.