Object Oriented Programming – 02

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Differences between Java and C++:

The main difference between java and C++ is, Java is platform independent language and C++ is platform dependent language. Below I give some other important Difference:

1. Java uses compiler and interpreter both, C++ uses compiler only.

2. Java doesn't support operator overloading, C++ supports operator overloading.

3. Java doesn't support goto statement, C++ supports goto statement.

4. Java includes automatic garbage collection, C++ requires explicit memory management.

5. Java does't support Pointer concept, C++ support pointer concept.

6. Java does not include structures or unions, C++ have structure and union concept.

7. Java doesn't support multiple inheritance through class. It can be achieved by interfaces in java. C++ supports multiple inheritance.

8. Java supports unsigned right shift >>> operator that fills zero at the top for the negative numbers. For positive numbers, it works same like >> operator. C++ doesn't support >>> operator.

9. Java has built-in thread support. C++ doesn't have built-in support for threads. It relies on third-party libraries for thread support.

10. Java has no virtual keyword. We can override all non-static methods by default. In other words, non-static methods are virtual by default. C++ supports virtual keyword so that we can decide whether or not override a function.

11. Java supports call by value only. There is no call by reference in java. C++ supports both call by value and call by reference.

12. Java mainly used for design web based application but also use for develop desktop application. C++ used for design only desktop application like OS, Compiler etc.

13. Java uses single inheritance tree always because all classes are the child of Object class in java. Object class is the root of inheritance tree in java. C++ creates a new inheritance tree always.

14. Java is high level programming language in java we write code like simple English language. C++ is more nearer to hardware then Java.

15. Java supports documentation comment (/** ... */) to create documentation for java source code. C++ doesn't support documentation comment.

16. Programs written in C++ are much faster compared to those written in Java.

17. Java is pure object oriented programming language. C++ is a procedural and object oriented programming language.

18. Java doesn’t have scope resolution operator and we can declare global variables. The methods can only be defined inside the class. In C++ we can declare global variables and can define methods outside the class using scope resolution operator.

19. Java is cumbersome model encourages weak encapsulation. C++ is thorough and flexible model with constant protection available.

20. In Java bytecode classes portable to platform specific JVM's. In C++ source must be recompiled for platform, hence code is not portable.

21. Exception handling in Java is different because there are no destructors. Also, in Java, try/catch must be defined if the function declares that it may throw an exception. While in C++, you may not include the try/catch even if the function throws an exception.

22. Java syntax has a context-free grammar that can be parsed by a simple LALR parser. Parsing C++ is more complicated. For example, Foo<1>(3); is a sequence of comparisons if Foo is a variable, but creates an object if Foo is the name of a class template.

23. C++ allows namespace-level constants, variables, and functions. In Java, such entities must belong to some given type, and therefore must be defined inside a type definition, either a class or an interface.