--Progrank

--W3 Tutorials

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| Go is a procedural and concurrent programming language. | C++ is an object-oriented programming language. |
| Go does not contain classes with constructors and deconstructors. | C++ does contain classes with constructors and deconstructors. |
| Go language provides automatic garbage collection for allocating memory. | C++ language does not provide automatic garbage collection for allocating memory. |
| Go language contains pointers, but does not contain arithmetic pointer. | C++ language contains both pointers as well as arithmetic pointers. |
| In Go language, map is passed by reference. | In C++, map is passed by value. |
| It does not use header files. Instead of header file, go use packages. It uses import to import external packages. | It contain header file and does not contain package. |
| It does not support implicit type conversion. | It support implicit type conversion. |
| It does not support function overloading and also does not support user defined operators. | It support function overloading and also support user defined operators. |
| It does not support const or volatile qualifiers. | It supports const and volatile qualifiers. |
| It provides nil for invalid pointers. | It provides NULL or 0 or nullptr for invalid pointers |
| Go use panic and recover for resolving error. | C++ use try, catch, and throw for resolving error. |
| It does not have while or do-while statements. But for loop can be used like a while loop. | It have while or do-while statements. |
| It is more strong typed as comparison to C++ language. | It is less strong typed as compare to Go language. |
| Go contains goroutines and channel. | C++ has threads. |
| Go does not support inheritance. But it provides an alternative in the form of Embedding. | C++ supports inheritance. |

WHY GO?

-Memory Management

-Security

-Slow Processing

Above issues in language like C,CPP.

-Solved by GO language and uses tools like Docker and Kubernetes.

-Multi-purpose languge

-compiled language

-static and strongly typed

-faster compilation

-simple and readable

-object document like

-pointers

-open source community

Defer

In Golang, the defer keyword is **used to delay the execution of a function or a statement until the nearby function returns**. In simple words, defer will move the execution of the statement to the very end inside a function.

# Interfaces in Golang

In Go language, the interface is a custom type that is used to specify a set of one or more method signatures and the interface is abstract, so you are not allowed to create an instance of the interface. But you are allowed to create a variable of an interface type and this variable can be assigned with a concrete type value that has the methods the interface requires. Or in other words, the interface is a collection of methods as well as it is a custom type.