Assignment - 2

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1). Difference between GO & JAVA

Go	***PYTHON***
• It is significantly faster than Python; performance is comparable to C++ and Java. • Currently, it is the most in-demand language for employers.	• Beginner friendly. • Incredibly versatile when compared to Go. Offers a large variety of libraries and frameworks. • Dynamically typed • Requires less code than Go.
• Well-scaled and highly supportive of concurrency (goroutines only take up 2kb memory).	• Old language, which allowed for the establishment of in-depth communities and high-degree of error-solving knowledge.
• Some coding skills are transferable if you've used C# or C++. • Contains automated garbage collection and typing as well.	• Dynamically typed • Requires less code than Go.
• Has excellent concurrency patterns.	• Object-oriented, has support for functional concepts.
• Able to easily tune CPU and memory utilization with powerful profiling tools. • Open-source.	• Contains automated garbage collection and typing. • Open source.

2). Difference between GO & PYTHON

Go	JAVA
It is significantly faster than Python; performance is comparable to C++ and Java. Currently, it is the most in-demand language for employers.	Slow and Poor Performance (GUI): Java consumes more memory compared to native programming languages like C and C++. This is due to the additional work of the interpreter to convert the code into machine language. The JVM performs various backend functions that decrease the speed of the program. 20-50 times slower than c++
Well-scaled and highly supportive of concurrency (goroutines only take up 2kb memory).	More Memory needed Java takes up more memory compared to other programming languages like C and C++. The memory management of Java is poor. As java supports automatic garbage collection, it runs in the backend continuously, hampering the performance.
Some coding skills are transferable if you've used C# or C++. Contains automated garbage collection and typing as well. Able to easily tune CPU and memory utilization with powerful profiling tools.	Complex code Java has many verbose and complex syntaxes. Sometimes, it becomes hard to remember those complex syntaxes. Due to these reasons, many programmers prefer python or C++ over java, as they have relatively simpler sentences. For example: A simple input would require us to write two lines of code:
Has excellent concurrency patterns.	No backup facility
Open-source.	Paid commercial license

Disadvantages of GO

Although it is very simple to use, sometimes it displays errors while integrating the GoLang pro with bigger projects. It would then be rash to disregard the other cleverer programming languages that have better bug-battling capacities. For those searching for generics, exemptions, and extensibility this programming language would be disheartened.

GoLang needs to integrate with the virtual machine dependencies because it needs more storage to convert the language into binary digits. Although, the RAM may be congested when the server breaks down by receiving heavy versions of code. Moreover, it permits conditions to be communicated inside the very document that contains the reliant code. Although this is something worth being thankful for, no developer can show a particular variant of the conditions.

- It has poor library support and it is hard to choose a framework to work with.
- Using GoLang pro you won't learn object-oriented programming because GoLang has its own way of doing things.
- It's a high-level language with low-level features.
- Its interface method doesn't support default implementation.
- Its simplicity appears to be shallow as a result of its inside irregularities.

So, these are the basic advantages and disadvantages of GoLang. It is developed by Google, so its compatibility is extremely good with the Windows operating system. Considering its advantages and disadvantages you have to choose wisely for your upcoming project.