INTRODUCTION OF PYTHON

1. **What is python?**

* Python is one of the Programming Language.
* It was created by Guido van Rossum and released in 1991.
* Python is an interpreted, Object-oriented High-level programming language.
* It is a Dynamically typed language.
* It is used for: Web development

Software development

Mathematics

System Scripting.

1. **Why Python?**

* Python is easy to learn and use.
* It is free and open source.
* Easy to code
* Easy to read.
* Easy to debug.
* Python is a portable language.
* Large standard language.
* Graphical user interface programming supports high-level language.

1. **What is a compiler?**

* Compiler programs convert source code written in a high-level programming language to a lower-level programming language, such as machine code, for creating an executable program.
* A compiler takes the entire program in one go.

1. **What is an Interpreter?**

* An interpreter translates code written in a high-level programming language into machine code line by line as the code runs.
* An interpreter takes a single line of code at a time.

1. **Difference between Compiler and Interpreter?**

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| Compiler | Interpreter |
| A compiler takes the entire program in one go. | An interpreter takes a single line of code at a time. |
| The compiler generates an intermediate machine code. | The interpreter never produces any intermediate machine code. |
| The compiler is best suited for the production environment. | An interpreter is best suited for a software development environment. |
| More memory requirement | Memory requirement is less. |
| The compiler is used by programming languages such as C, C++, C#, and JAVA. | An interpreter is used by programming languages such as PYTHON, PHP, PERL, and RUBY. |

1. **What is low-level language?**

* Binary language
* It is a machine-friendly language.
* Low-level language requires more coding and debugging, which increases development time.
* It is more hardware-dependent.

Example: Machine language and Assembly language.

1. **What is High-level language?**

* High-level languages are more abstracted from computer hardware and closer to human language.
* Easy to use.
* Requires less coding and debugging.
* It is used in software development, web development, and database management.
* It is more portable across different hardware and software platforms.

Example: Python, C, C++, C# and Javascript.