

## Task - 1

Date - 09/09/2025

- ① What are the different features of python programming.
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- ① General purpose - python isn't limited to a single application. It is used for web development, data science, AI, etc.
  - ② High-level - This language is designed to be easy for humans to read, write and understand.
  - ③ Object oriented - Python supports the principles of object oriented programming like abstraction, encapsulation, inheritance, polymorphism.
  - ④ Interpreted - Python code is executed line by line by an interpreter.
  - ⑤ User friendly - simple syntax, clean syntax,
  - ⑥ Open source - It is freely available to download, use and distribute, so which has a large active community and a rich ecosystem of libraries.
  - ⑦ Dynamically typed - no need to specify variable data type. Python automatically find the based on the value we assign.  
e.g. `x=10` or `name="python"`.

② What is the difference between compiler and Interpreter.



compiler

Interpreter

- ① A compiler takes the entire program in one go.
- ② The compiler generates an intermediate machine code.
- ③ The compiler is best suited for the production env.
- ④ The compiler is used by programming languages such as C, C++, C#, Scala, Java.
- ① An interpreter takes a single line of code at a time.
- ② The interpreter never produce any intermediate machine code.
- ③ An interpreter is best suited for a software development environment.
- ④ An interpreter is used by programming languages such as Python, PHP, Perl, Ruby.

③ difference between high level & low level programming languages.



High level programming language -

- ① Human readable and easier to understand and use.
- ② Portable.
- ③ comparatively lower execution speed.
- ④ Uses syntax and semantics.
- ⑤ e.g. Java, Python, C++.

Low level programming language -

① Easy to understand for machine, but less human-readable.

② Not Portable.

③ Higher execution speed.

④ Uses binary code and

⑤ e.g. Assembly language, Machine Language.

④ What are the different steps to Install python.

→ ① Navigate to python official website.

② click the download button which is stable & compatible for OS.

③ After download open the installer file.

④ check the required box.

⑤ follow onscreen prompt to complete Installation.

⑥ verify the installation using cmd type python --version.

⑤ What is IDE, what are different IDEs used for python.

→ An Integrated Development Environment is a software application that provides a comprehensive environment for programmers to write, edit, debug and run code. IDEs typically include a source code editor, build automation tool and a debugger.

## IIDE'S FOR PYTHON -

- ① VS code - A highly popular, light weight & customizable code editor with python extensions.
- ② Pycharm - A dedicated Python IDE known for excellent debugging tools and a wide range of features.
- ③ Jupyter notebooks & google colab -

④ difference between scripting & programming languages. Python is scripting or programming language.



- ① A programming language is typically used to create standalone, full-featured software applications e.g. (desktop app or video game). These languages are often compiled into machine code for faster execution.
- ② A scripting language is designed to automate tasks or control other programs (e.g. a script to automate file backups or manage a website). These are usually interpreted, running line by line.

Python is considered both a programming & a scripting language. It can be used to write short scripts for task automation and also to build large, complex software applications.

⑦ Explain history of python.

→ Python was created by Guido van Rossum. He started working on it as a hobby project during the Christmas holidays of 1989. The first version was released in Feb 1991. His goal was to develop a simple, readable language that could bridge the gap between shell scripting and languages like C. The language was named after the popular BBC comedy show, "Monty Python's Flying Circus".