Introduction to python

Python is a high-level interpreter based programming language. It is knwon by its simplicity, very easy syntax and also it contains a large number of high-level libraries which make it popular choice for begineners and experienced programmers. Python can be used for a wide range of tasks, including web development, data analysis, machine learning, and more. It is a OOP based langauge which support both Imperative and Declarative programming. It can directly be executed on command line and the file extention of python file is .py. It is identation based language. Identation refers to number of spaces at begining of line.

Defaulut number of spaces to seperate a block from another block are four, programmer can use its own as well but the number of spaces in same block must have to be same

What is python module

In Python, a module is a file containing Python definitions and statements. Definitions are used to create new objects, such as functions, classes, and variables. For example, you can define a function using the def keyword Statements are used to perform actions, such as assignments, control flow, and function calls. For example, you can assign a value to a variable using the assignment operator =: A python module can be divided into different files and then all these files can be imported into single file to make a module

Types of Module in python

There are two types of module in python: Predefinded Module: These are modules that are included with Python and provide a wide range of functionality, from file I/O to data analysis. Examples of built-in modules include os, sys, math, random, etc. You can use these modules by importing them into your Python script. User-defined modules: These are modules that you create yourself and can contain definitions, statements, and other elements that you want to reuse in multiple projects. You can create a user-defined module by saving a Python file with a .py extension and then importing it into another Python script. Third-party module: Third-Party module are created and maintained by other developers and can be installed using a package managerlike pip. These modules provide additional functionality that is not included with Python and can be easily integrated into your projects.

What is Pip

pip is a package manager for Python that makes it easy to install, upgrade, and manage third-party libraries and packages in your Python projects. It is a command-line tool that you can use to download and install packages from the Python Package Index (PyPI), a repository of over 200,000 open-source packages.

With pip, you can install packages with a single command, making it easy to add new functionality to your projects. For example, you can use pip to install a popular machine learning library like scikit-learn:

Difference in Framework and Moduel

A module is a collection of code that provides specific functionality, while a framework provides a structure and set of tools for building an entire application. the example of python module is math and the example of framework in python is Django framework, which is a high-level web framework for building dynamic web applications.

Comments in python

Comments in Python are statements that are ignored by the Python interpreter and are used to provide information about the code or to temporarily disable parts of the code. It's a good practice to include comments in your code to make it more readable and maintainable.

In [6]:
```
#Python support single line and multi line comments, a single line comment start with #
```

In [ ]:
```
"""
This is a multi-line string
literal
"""
```

In [ ]:
```
```