Chapter-3: Python Software

Topics :

1.Python Versions

2.python software installation

3.what python software provides

4.Python Distributions

5.Python Working Modes

Python versions

Python1 → 1.1,1.2,1.3,1.4,1.5

Python2 → 2.0,2.1,2.2,2.3,2.4,..2.7

Python3 → 3.0,3.1,3.2,3.3,3.4,… 3.14.2

Python 1 ,python 2 ,python 3 → these are called major versions because there is 70 to 80 % percent changes in language

3.0,3.1,3.2 → these are called minor versions

3.14.2→micro version

3.14.2

│ │ └── Micro (bug fixes)

│ └──── Minor (new features)

└────── Major (big language changes)

There is no compatibility between major versions

There is compatibility between minor versions

Python software installation

Python software is free to download it is available in www.python.org

Python software provides

1. IDLE (Integrated Development Learning Environment) is code editor/ide(integrated development environment)
2. Standard Libraries
3. Python Shell (REPL tool R-Read,E-Evaluate,P-Print,L-Loop)
4. Python Compiler
5. PVM
6. Python tools (Python installer package (PIP), Python Debugger,..)

Third party ide's or editors

PyCharm

VSCODE

Spyder

Jupyter Notebook

Google Colab (Cloud)

Python implementations

1. Jython

2. Ironpython
3. Rpython
4. Pypy
5. Micropython

Python Distributions

Python distribution is a python software bundle, it consist of

1. Python software
2. Application specific libraries
3. IDE's

Some of Python Distribution :

Anaconda

ActiveState ActivePython

pyodide

WinPython

Conceptive Python SDK

Python Working Modes

Python developer work with python in 2 modes

1. Interactive mode
2. Scripting mode or programming mode

1.Interactive mode

In interactive mode python developer work with python shell

What is a python shell?

Python shell is command line interface OR single line command line interface. This allows you to interact with python by typing a single command.

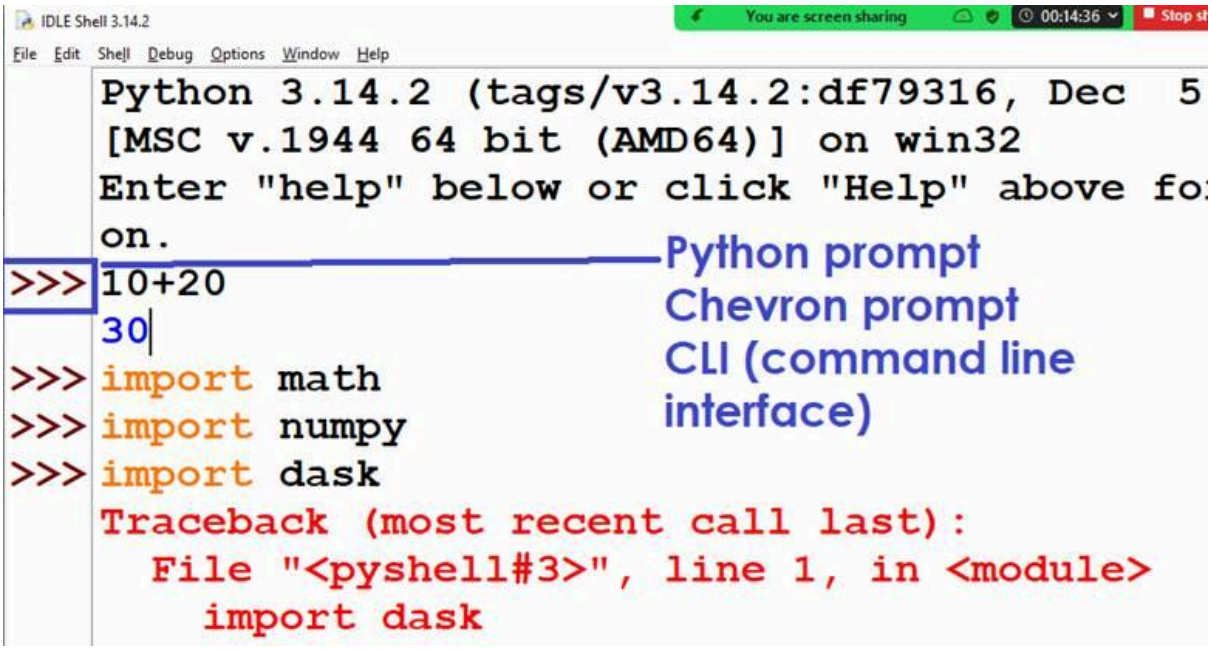
Python shell is also called REPL tool

- Read

- Evaluate

- Print

- Loop



In interactive mode python developer cannot write programs

The command given inside interactive mode cannot be saved

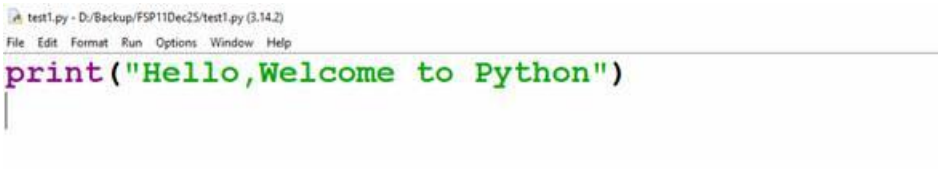
2.Programming Mode OR Scripting Mode

Programming mode, also known as scripting mode, is used to write Python code in a file and run it as a program. A program is a set of instructions that tells the computer what to do. In Python, programs are saved with the `.py` extension. In this mode, the code is written in a file, saved, and then executed to get the output. It is mainly used for writing and running complete programs.

Technically every python program is called a **module**.

How to write a python program?

File -> New File



File -> Save

Run ->Module

What is the difference between interactive mode and scripting mode?

Interactive mode	**Scripting mode**
It allows to type one command or instruction	It allows to write and execute more than one instruction or command (BATCH)
The commands cannot be saved	All the instructions can be saved inside file and run more than one time
It is used for testing and debugging and learning purpose but not for developing apps	It allows to develop applications or apps