What is Python?

Python was first released in 1991 by Guido van Rossum, and it has since become one of the most popular programming languages in the world.

Python supports multiple programming paradigms, including object-oriented, imperative and functional programming which makes it a versatile tool for solving a wide range of programming task.

Modules in Python:

In python, a module is a single file containing python definitions and statements. A module can define functions, classes, and variables, can also include runnable code. Modules can be imported into other modules or into the main module.

The important statement is used to include a module in a script.

Comments in Python:

Comments are used to explain and document code.

Comments are ignored by the interpreter and are not executed as part of the program. They are used to add additional information in the code, such as the purpose of a specific block of code or instructions for how to use function.

There are two ways to write comments in python.

Single-line comments start with a # symbol and continue to the end of the line. They are used for short, one-line explanation.

Multi-line comments, also known as documentation strings, start and end with triple quotes. They can span multiple lines and are often used to provide detailed information about the code or documentation.

Pip in Python:

Pip is a package management system for python that makes it easy to install and manage third party libraries and modules. With pip, you can install, update, and remove packages with a simple command line interface.

Pip also allows you to create a requirement file to save the independencies of your project. You can create it by running pip freeze>requirement.txt and then you can use this file to install all the packages in an environment by running pip install –r requirements.txt.

Pip is a powerful tool that makes it easy to manage the packages your python projects depend on. It simplifies the process of installing, updating, and removing packages and helps ensure that your projects have all the dependencies they need to run correctly.

Variable:

A variable is the name given to a memory location in a program.

String:

It is a data type in python and a sequence of characters enclosed in quotes.

1. Single quoted strings
2. Double quoted strings
3. Triple quoted strings

List:

List is a container to store a set of values of any data type.

List indexing:

A list can be indexed just like a string.

Dictionary:

Dictionary is a collection of key value pairs. It is unordered, mutable and indexed.

Functions And Recursions:

A function is a group of statements performing a specific task. It can be reused by the programmer in a given program any number.

Recursion is a function which calls itself and used to directly use a mathematical formula as a function.