

# Python Assignment - 2

## 1) what is python? why is it so popular?

- The python language is one of the most accessible programming languages available because it **has simplified syntax and is not complicated, which emphasizes** natural language. Due to its ease of learning and usage, python codes can be easily written and executed much faster than other programming languages.
- Python is a computer programming language often used to build websites and software, automate tasks, and conduct data analysis. Python is a **general-purpose language**, meaning it can be used to create a variety of different programs and isn't specialized for any specific problems.

## 2) Features in Python

There are many features in Python, some of which are discussed below –

1. Easy to code
2. Free and Open Source
3. Object-Oriented Language
4. High-Level Language
5. Extensible feature
6. Python is a Portable language
7. Python is an integrated language
8. Interpreted Language
9. Large Standard Library
10. Dynamically Typed Language

## 3) what type of language is python programming or scripting?

Python is a **scripting language**. It is also an interpreted and high-level programming language for the purpose of general programming requirements. It was designed and developed by the Software Developer named Guido van Rossum.

## 4) what is pep 8?

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- PEP 8, sometimes spelled PEP8 or PEP-8, is a document that provides guidelines and best practices on how to write Python code. The primary focus of PEP 8 is to improve the readability and consistency of Python code.
- PEP stands for Python Enhancement Proposal, A PEP is a document that describes new features proposed for Python and documents aspects of Python, like design and style, for the community.

### 5) python is an interpreted language. explain

- Python is an interpreted language, which means the source code of a Python program is converted into *bytecode* that is then executed by the Python virtual machine.
- **Python code is fast to develop:** As the code is not needed to be compiled and built, Python code can be readily changed and executed

### 6) How is memory managed in Python?

Memory management in Python involves a private heap containing all Python objects and data structures. The management of this private heap is ensured internally by the **Python memory manager**. The Python memory manager has different components which deal with various dynamic storage management aspects, like sharing, segmentation, preallocation, or caching.

### 7) what is namespace in python

A namespace is a system that has a unique name for each and every object in Python. An object might be a variable or a method. Python itself maintains a namespace in the form of a Python dictionary.