ASSIGNMENT 3

1. What is Python? Why is it so popular?

Python is a **high level**, **interpreted** language which has **easy** syntax and **dynamic** semantics. Python is much easier than other programming languages and helps you create [beautiful applications](https://www.edureka.co/blog/python-interesting-facts-you-need-to-know/) with less effort and much more ease.

It is ease of learning and use, it has rich libraries and frameworks, strong and supportive community, it has built a reputation for being efficient, reliable and must faster than modern

languages, usefulness and popularity in big data, machine learning and cloud computing.

1. What are the key features of Python?

As a programming language, the features of Python brought to the table are many. Some of the most significant features of Python are:

* Easy code
* Free and open source
* Object-oriented approach
* High-level language
* Integrated by nature
* Highly dynamic and portable

1. What type of language is Python? Programming or scripting?

Python is a programming language, but, it can be used for scripting as well. Python is widely used in programming and is an interpreted language which occurs during runtime. It translates code, it becomes more flexible and versatile than many other scripting languages available.

1. What is pep 8?

The PEP is an abbreviation form of **Python Enterprise Proposal**. PEP 8 is a document that provides various guidelines to write the readable in Python. PEP 8 describes how the developer can write beautiful code. It was officially written in 2001 by Guido van Rossum, Barry Warsaw, and Nick Coghlan. The main aim of PEP is to enhance the readability and consistency of code.

1. Python an interpreted language. Explain

Python converts source code written by the programmer into intermediate language which is again translated into the native language / machine language that is executed. So Python is an Interpreted language.

1. How is memory managed in Python?

The Python memory manager manages Python’s memory allocations. There’s a private **heap** that contains all Python objects and data structures. The Python memory manager manages the Python **heap** on demand. The Python memory manager has object-specific**allocators** to allocate memory distinctly for specific objects such as int, string, etc… Below that, the **raw memory allocator** interacts with the memory manager of the operating system to ensure that there’s space on the private heap. Python memory manager doesn’t necessarily release the memory back to the Operating System, instead memory is returned back to the python interpreter. Python has a small objects allocator that keeps memory allocated for further use

1. What is namespace in Python?

Namespaces are the constructs used for organizing the names assigned to the objects in a python program