**ASSIGNMENT- 1**

1. **What is Python Language?**

**Ans. Python is an interpreted, high-level, general-purpose programming language. Created by Guido van Rossum and first released in 1991, Python's design philosophy emphasizes code readability with its notable use of significant whitespace.**

1. **What are the key features of Python?**

**Ans. Python provides lots of features that are listed below.**

#### **1) Easy to Learn and Use**

**Python is easy to learn and use. It is developer-friendly and high level programming language.**

#### **2) Expressive Language**

**Python language is more expressive means that it is more understandable and readable.**

#### **3) Interpreted Language**

**Python is an interpreted language i.e. interpreter executes the code line by line at a time. This makes debugging easy and thus suitable for beginners.**

#### **4) Cross-platform Language**

**Python can run equally on different platforms such as Windows, Linux, Unix and Macintosh etc. So, we can say that Python is a portable language.**

#### **5) Free and Open Source**

**Python language is freely available at official web address.The source-code is also available. Therefore it is open source.**

#### **6) Object-Oriented Language**

**Python supports object oriented language and concepts of classes and objects come into existence.**

#### **7) Extensible**

**It implies that other languages such as C/C++ can be used to compile the code and thus it can be used further in our python code.**

#### **8) Large Standard Library**

**Python has a large and broad library and provides rich set of module and functions for rapid application development.**

#### **9) GUI Programming Support**

**Graphical user interfaces can be developed using Python.**

#### **10) Integrated**

**It can be easily integrated with languages like C, C++, JAVA etc.**

1. **How is Python an interpreted language?**

**Ans. Python is called an interpreted language because it goes through an interpreter, which turns code you write into the language understood by your computer's processor.**

1. **How is memory managed in Python?**

**Ans. 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, pre-allocation or caching.**

1. **What is Python path?**

**Ans. PYTHONPATH is an environment variable which you can set to add additional directories where python will look for modules and packages. For most installations, you should not set these variables since they are not needed for Python to run. Python knows where to find its standard library.**

1. **What are the generators in python?**

**Ans. Generators are used to create iterators, but with a different approach. Generators are simple functions which return an iterable set of items, one at a time, in a special way. When an iteration over a set of item starts using the for statement, the generator is run.**

1. **Does python have OOPS concept?**

**Ans. Yes, Python is an object-oriented programming language, along with the Object oriented programming features such as inheritance, polymorphism, abstraction, encapsulation.**

1. **Is python case insensitive ?**

**Ans. Python is a case-sensitive language. This means, “Variable” and “variable” are not the same. Always give the identifiers a name that makes sense.**

1. **How long can an identifier be in python?**

**Ans. Identifiers are unlimited in length. But you'll be violating PEP-8 most likely, which is not really cool. Limit all lines to a maximum of 79 characters.**

1. **With python, How do you find out which directory you are currently in?**

**Ans. To find out which directory in python you are currently in, use the getcwd() method. Cwd is for current working directory in python. This returns the path of the current python directory as a string in Python. To get it as a bytes object, we use the method getcwdb()**