1. **What is python, why python is so popular?**

Easy to Learn and Understand. Learning and using the Python coding language is rather easy for beginners. Python is one of the most understandable coding languages since it emphasizes simple speech and offers a straightforward syntax. 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. It focuses on simplicity and readability, it boasts a gradual and relatively low learning curve. This ease of learning makes Python an ideal tool for beginning programmers. Python offers programmers the advantage of using fewer lines of code to accomplish tasks than one needs when using older languages.

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

The following are some of the features in Python that are discussed below:

* **Easy to Code:** Python is a very high-level programming language, yet it is effortless to learn. Anyone can learn to code in Python in just a few hours or a few days. Mastering Python and all its advanced concepts, packages and modules might take some more time. However, learning the basic Python syntax is very easy, as compared to other popular languages like C, C++, and Java.
* **Easy to Read:** Python code looks like simple English words. There is no use of semicolons or brackets, and the indentations define the code block. You can tell what the code is supposed to do simply by looking at it.
* **Free and Open-Source:** Python is developed under an OSI-approved open source license. Hence, it is completely free to use, even for commercial purposes. It doesn't cost anything to download Python or to include it in your application. It can also be freely modified and re-distributed. Python can be downloaded from the official Python website.
* **Robust Standard Library:** Python has an extensive standard library available for anyone to use. This means that programmers don’t have to write their code for every single thing unlike other programming languages. There are libraries for image manipulation, databases, unit-testing, expressions and a lot of other functionalities. In addition to the standard library, there is also a growing collection of thousands of components, which are all available in the
* **Interpreted:** When a programming language is interpreted, it means that the source code is executed line by line, and not all at once. Programming languages such as C++ or Java are not interpreted, and hence need to be compiled first to run them. There is no need to compile Python because it is processed at runtime by the interpreter.
* **Dynamically Typed:** Many programming languages need to declare the type of the variable before runtime. With Python, the type of the variable can be decided during runtime. This makes Python a dynamically typed language.

For example, if you have to assign an integer value 20 to a variable “x”, you don’t need to write int x = 20. You just have to write x = 15.

1. **What type of language is python programming or scripting?**

Python is an advanced scripting language that is being used successfully to glue together large software components. It spans multiple platforms, middleware products, and application domains. Python is an object-oriented language with high-level data structures, dynamic typing, and dynamic binding.

1. **What Is PEP-8**

PEP 8, sometimes spelled PEP8 or PEP-8, is a document that provides guidelines and best practices on how to write Python code. It was written in 2001 by Guido van Rossum, Barry Warsaw, and Nick Coghlan. The primary focus of PEP 8 is to improve the readability and consistency of Python code.

1. **Python 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 is different from major compiled languages, such as C and C + +, as Python code is not required to be built and linked like code for these languages.

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

Overview. 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.

1. **What is namespace in python?**

A namespace is a collection of currently defined symbolic names along with information about the object that each name references. You can think of a namespace as a dictionary in which the keys are the object names and the values are the objects themselves.

Types of namespaces are

1. Built-in namespace
2. Global namespace
3. Local namespace