1. Python is a widely-used general-purpose, high-level programming language. It was created by Guido van Rossum in 1991 and further developed by the Python Software Foundation. It was designed with an emphasis on code readability, and its syntax allows programmers to express their concepts in fewer lines of code.
2. Object-Oriented Language, High-Level Language, Dynamically Typed language, Extensive support Libraries, Presence of third-party modules, Open source and community development, Portable and Interactive, Portable across Operating systems.
3. ‘#’ is used to comment on everything that comes after on the line.
4. Mutable data types can be edited i.e., they can change at runtime. Eg – List, Dictionary, etc. Immutable data types cannot be edited i.e., they cannot change at runtime. Eg – String, Tuple, etc.
5. Everything in Python is an object and all variables hold references to the objects. The reference values are according to the functions; as a result, you cannot change the value of the references. However, you can change the objects if it is mutable.
6. The set is an unordered collection of data types that is iterable, mutable and has no duplicate elements. A dictionary in Python is an ordered collection of data values, used to store data values like a map.
7. Pass means performing no operation or in other words, it is a placeholder in the compound statement, where there should be a blank left and nothing has to be written there.
8. There are 3 main keywords i.e. try, except, and finally which are used to catch exceptions and handle the recovering mechanism accordingly. Try is the block of a code that is monitored for errors. Except block gets executed when an error occurs. The beauty of the final block is to execute the code after trying for an error. This block gets executed irrespective of whether an error occurred or not. Finally, block is used to do the required cleanup activities of objects/variables.
9. The “for” Loop is generally used to iterate through the elements of various collection types such as List, Tuple, Set, and Dictionary. Developers use a “for” loop where they have both the conditions start and the end. Whereas, the “while” loop is the actual looping feature that is used in any other programming language. Programmers use a Python while loop where they just have the end conditions.
10. To pass a variable number of arguments to a function in Python, use the special syntax \*args and \*\*kwargs in the function specification. It is used to pass a variable-length, keyword-free argument list. By using the \*, the variable we associate with the \* becomes iterable, allowing you to do operations on it such as iterating over it and using higher-order operations like map and filter.