

Q1: - What are the new features added in Python 3.8 version?

Ans: - Python 3.8, released on October 14, 2019, introduced several new features.

- **Assignment Expressions:** A new syntax `: =`, known as the "walrus operator", assigns values to variables as part of a larger expression.

- **Positional-only parameters:** A new function parameter syntax `/` indicates that some function parameters must be specified positionally and cannot be used as keyword arguments.

- Other features include enhancements to the Python Initialization Configuration, the introduction of Vectorcall (a fast-calling protocol for CPython), Runtime audit hooks, and Pickle protocol 5 with out-of-band data.

Q2: - What is monkey patching in Python?

Ans: - Monkey patching in Python refers to dynamic (or run-time) modifications of a class or module. It allows the behavior of code to be changed at run-time. For example, a function in a module can be replaced with a new function defined elsewhere.

Q3: - What is the difference between a shallow copy and deep copy?

Ans: - In Python, a **shallow copy** creates a new collection object and inserts references into it to the objects found in the original. A **deep copy** on the other hand, constructs a new collection object and then recursively inserts copies into it of the objects found in the original.

Q4: - What is the maximum possible length of an identifier?

Ans: - In Python, an identifier is limited to a maximum length of 79 characters. However, Python technically allows identifiers to have unlimited length, but the PEP-8 style guide recommends a limit of 79 characters.

Q5: - What is generator comprehension?

Ans: - A generator comprehension in Python is a concise way to create a generator object⁶⁸. It is similar to a list comprehension, but instead of creating a list, it creates a generator object that can be iterated over to produce the values in the generator.