1. What is Python? Explain its key features and advantages.
2. How does Python handle memory management?
3. What are the differences between Python 2 and Python 3?
4. Explain the concept of Python decorators and provide an example.
5. What is the Global Interpreter Lock (GIL) in Python and how does it impact concurrency?
6. Describe the usage and differences between lists, tuples, and sets in Python.
7. What is the purpose of Python's virtual environments, and how do you create and activate them?
8. Explain the concept of generators and how they differ from regular functions.
9. What is the difference between a shallow copy and a deep copy in Python?
10. How does exception handling work in Python? Explain the try-except-else-finally blocks.
11. Discuss the differences between a function and a method in Python.
12. Explain the principles of object-oriented programming (OOP) and how they are implemented in Python.
13. What is the purpose of Python's \_\_init\_\_ method in classes?
14. Describe the difference between a module and a package in Python.
15. Explain the concept of pickling and unpickling in Python.
16. What is a lambda function in Python and how is it used?
17. How do you handle file I/O operations in Python?
18. What is the purpose of the if \_\_name\_\_ == '\_\_main\_\_': statement in Python scripts?
19. Discuss the differences between mutable and immutable objects in Python.
20. Explain the purpose and usage of Python's map(), filter(), and reduce() functions.