



Interview Questions : Function in Python



Objective:

To evaluate the candidate's grasp of Python functions including their syntax, functionality, scope, recursion, and advanced usage.



Beginner-Level Questions

1. What is a function in Python and why is it used?
2. How do you define a function in Python? Provide syntax and an example.
3. What is the difference between a parameter and an argument?
4. What is the use of the `return` statement in a function?
5. How can you call a function in Python?
6. What are default arguments in a function? Give an example.
7. What is the output of the following code?

```
def greet(name="Guest"):
    print("Hello", name)
greet()
greet("Alice")
```



Intermediate-Level Questions

8. What are keyword arguments and positional arguments?
9. Can you pass a function as an argument to another function? Give an example.
10. **What are `*args` and `kwargs` in Python functions?
11. What is the difference between a global and a local variable in the context of functions?
12. What happens if a function doesn't have a `return` statement?
13. What is the scope of a variable inside a function?
14. What is a lambda function? How is it different from a regular function?



Advanced-Level Questions

15. What is recursion? Write a function to compute the factorial of a number using recursion.
16. Explain closures in Python with an example.
17. What is a nested function? When would you use one?
18. What are anonymous functions in Python? Where are they commonly used?
19. Can a function return another function? Show an example.
20. What are decorators in Python? Give a real-world use case.
21. How is a function different from a method in Python?



Scenario-Based Questions

22. Write a function that takes a list of numbers and returns a dictionary with the number as the key and its square as the value.
23. Design a reusable function to check whether a string is a palindrome.
24. Write a function that accepts a string and returns the frequency of each character.
25. How would you structure a program using functions to keep it modular and maintainable?
26. Given a list of student records, write a function to return the name of the student with the highest grade.