

1. What is a function in Python? Why are functions useful?
2. What is the difference between a built-in function and a user-defined function?
3. What are positional and keyword arguments?
4. Write a function `greet()` that prints "Hello, World!" to the console.
5. Write a function `add(a, b)` that takes two numbers and returns their sum.
6. Write a function `greet(name, message="Hello")` that takes a person's name and an optional greeting message. If the message is not provided, it should default to "Hello".
7. What is the difference between positional, keyword, and default arguments?
8. How does Python handle function scope (local, global, and nonlocal)?
9. What is the purpose of a return statement in a function?
10. Write a function `get_min_max(numbers)` that takes a list of numbers and returns both the minimum and maximum numbers from the list.
11. Write a function that modifies a global variable inside the function using the `global` keyword.
12. What are *lambda* functions? When are they useful?
13. Explain *function decorators* and how they are used.
14. What is the `*args` and `**kwargs` syntax in Python, and how does it work?
15. Write a lambda function to find the square of a number and test it on several values.
16. Write a function `fibonacci(n)` that computes the *n*th Fibonacci number using memoization to improve performance.
17. Write a closure function `make_multiplier(x)` that returns a new function which multiplies its argument by *x*.