1. What is a function in Python, and why is it used?

2. How do you define a function in Python? Provide an example.

3. What is the difference between parameters and arguments in a function?

4. Explain the difference between return and print() inside a function.

5. How do you define a function with default parameter values? Give an example.

6. How can you pass a variable number of arguments to a function? Explain with *args and **kwargs.

7. What is recursion? Write a recursive function to calculate the factorial of a number.

8. How do you use a function inside another function? Provide an example.

9. What is the difference between a **local variable** and a **global variable** inside a function?

10. How do you return multiple values from a function? Give an example.

11. Write a function that takes a list of numbers as input and returns the sum of all even numbers.

12. Write a Python function that checks if a given string is a palindrome.

13. Write a function that takes a sentence as input and returns the number of words in it.

14. What is a lambda function in Python? Write an example of a lambda function that squares a number.

15. Explain the map(), filter(), and reduce() functions in Python with examples.

16. What is function overloading in Python? Does Python support function overloading? Explain with an example.

17. Write a function that takes a dictionary as input and returns a new dictionary with keys and values swapped.

18. How do you create and use function decorators in Python? Provide an example.

19. What are first-class functions in Python? Explain with an example.

20. Explain the difference between a normal function and a generator function. Provide an example of a generator function that yields Fibonacci numbers.