

## Exercise

### Functions & Arguments – 25 Python Exercises

#### Basic Function Definitions

1. Write a function that returns the square of a number.
2. Create a function that returns the cube of a number.
3. Write a function that prints “Hello, [name]”.
4. Write a function that adds two numbers.
5. Write a function that returns the larger of two numbers.
6. Write a function that checks if a number is even or odd.
7. Create a function that multiplies three numbers.
8. Write a function that returns the absolute value of a number.
9. Create a function that takes a list and returns the sum of all elements.
10. Write a function that calculates the factorial of a number.

#### Default and Keyword Arguments

11. Create a function that greets a person. If no name is given, use “Guest”.

# greet("Alice") → Hello, Alice

# greet() → Hello, Guest

12. Write a function that takes a name and age, and prints them using keyword arguments.
13. Create a function with a default discount value. If not provided, use 10%.
14. Write a function to calculate the area of a rectangle. Use default values for width and height.

#### \*args and \*\*kwargs

16. Create a function that sums any number of numbers using \*args.
17. Write a function that finds the maximum value among \*args.
18. Create a function that prints all key-value pairs using \*\*kwargs.
19. Write a function that accepts both \*args and \*\*kwargs and prints them.
20. Create a function that multiplies all values passed using \*args.