

# Python Functions

---

## 1. Greeting Function

**Q:** Write a function `greet()` that prints a welcome message.

**Hint:** No parameters needed. Use the `print()` function inside.

---

## 2. Addition of Two Numbers

**Q:** Create a function `add(a, b)` that returns the sum of two numbers.

**Hint:** Use `return a + b`. Try calling it with different values.

---

## 3. Area of a Circle

**Q:** Write a function `area_of_circle(radius)` that returns the area of a circle. Use  $\pi = 3.14$ .

**Hint:**  $\text{Area} = \pi \times \text{radius}^2$

---

## 4. Even or Odd Checker

**Q:** Write a function `is_even(number)` that returns `True` if the number is even, else `False`.

**Hint:** Use modulus operator `%`.

---

## 5. Temperature Conversion

**Q:** Create a function `fahrenheit_to_celsius(f)` that converts temperature from Fahrenheit to Celsius.

**Hint:** Formula:  $C = (F - 32) \times 5/9$

---

## 6. Multiplication Table Generator

**Q:** Write a function `print_table(n)` that prints the multiplication table of a number up to 10.

**Hint:** Use a `for` loop inside the function.

---

---

## 7. Find Maximum of Three Numbers

**Q:** Create a function `max_of_three(a, b, c)` that returns the largest of the three numbers.

**Hint:** Use nested `if` or Python's built-in `max()` function.

---

## 8. Palindrome Checker

**Q:** Write a function `is_palindrome(word)` that checks if a word reads the same forward and backward.

**Hint:** Try `word == word[::-1]`

---

## 9. BMI Calculator

**Q:** Create a function `calculate_bmi(weight, height)` that returns the BMI and its category.

**Hint:** BMI = weight / (height \*\* 2). Add conditionals to return categories like "Normal", "Overweight".

---

## 10. Simple Interest

**Q:** Write a function `simple_interest(p, r, t)` that calculates and returns the interest.

**Hint:** Formula:  $SI = (P \times R \times T) / 100$

---

## 11. Prime Number Checker

**Q:** Create a function `is_prime(n)` that checks if a number is prime.

**Hint:** A number is prime if it's only divisible by 1 and itself. Loop from 2 to  $\sqrt{n}$ .

---

## 12. Count Vowels in a String

**Q:** Write a function `count_vowels(text)` that returns the number of vowels.

**Hint:** Use a loop and check each character in `'aeiouAEIOU'`.

---

## 13. Login System

**Q:** Create a function `login(username, password)` that prints "Login Successful" only if both match predefined values.

**Hint:** Use `if` statements to match username and password.

---

## 14. Grade Calculator

**Q:** Write a function `grade_calculator(marks)` that returns grades as per this rule:

- 90-100: A
- 80-89: B
- 70-79: C
- 60-69: D
- <60: F

**Hint:** Use `if elif else`.

---

## 15. Average of a List

**Q:** Write a function `average_of_list(numbers)` that returns the average.

**Hint:** Use `sum()` and `len()` functions.

---

## 16. Volume of a Cylinder

**Q:** Create a function `volume_of_cylinder(radius, height)` to return the volume.

**Hint:** Use formula:  $\pi r^2 h$ . Let  $\pi = 3.14$

---

## 17. Reverse a String

**Q:** Define a function `reverse_string(text)` that returns the reversed string.

**Hint:** Use string slicing: `text[::-1]`

---

## 18. Factorial of a Number

**Q:** Write a function `factorial(n)` that returns the factorial using a `for` loop.

**Hint:** Factorial of n is product of numbers from 1 to n.

---

## 19. Greet with Optional Message

**Q:** Create a function `greet_user(name, message="Good day!")` that greets a user with a default message.

**Hint:** Use default parameter syntax.

---

## 20. Discount Calculator

**Q:** Define a function `calculate_discount(price, discount_percent=10)` that returns the discounted price.

**Hint:** Discounted price = price - (price × discount\_percent / 100)