# Mastering Python Functions

Empower Your Python Skills with 20 Functions
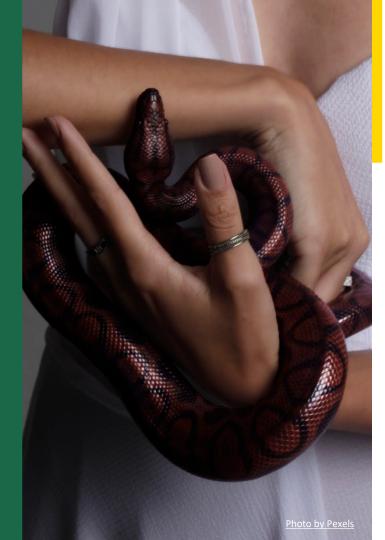
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# Create a Function
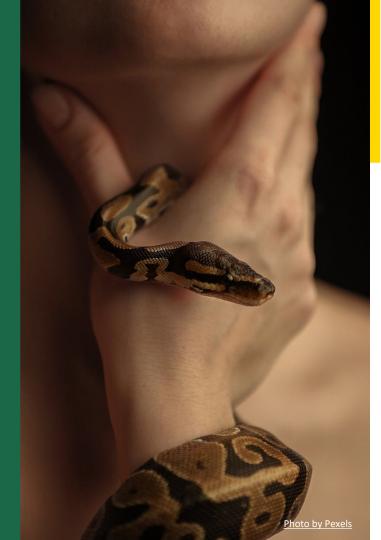
## Hello, World!

- Write a function that returns 'Hello, World!'

- Python function to display 'Hello, World!'

- Simple function to greet the world

- Example: def hello_world(): return 'Hello, World!'

# Add Two Numbers
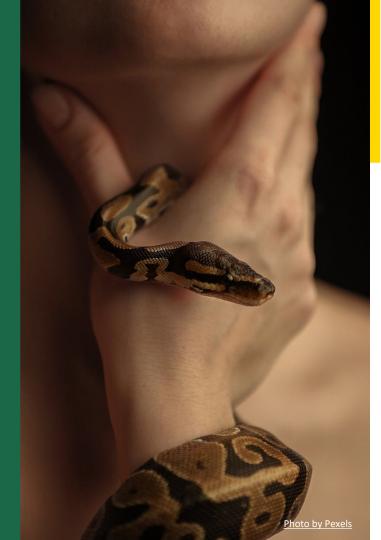
### Sum Function

- Function to add two numbers in Python
- Adds two input numbers and returns the result
- Basic addition function
- Example: def add(a, b): return a+b

# Subtract Two Numbers

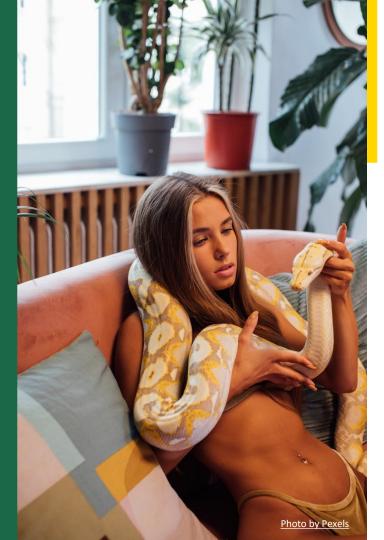### Subtraction Function

- Write a function to subtract two numbers

- Subtracts second number from the first

- Basic subtraction function in Python

- Example: def subtract(a, b): return a-b

# Multiply Two Numbers

### Multiplication Function

- Function to multiply two numbers in Python

- Multiplies two given numbers

- Basic multiplication function

- Example: def multiply(a, b): return a*b

# Divide Two Numbers

### Division Function

- Python function to divide two numbers
- Divides the first number by the second
- Basic division function
- Example: def divide(a, b): return a/b

**6**

# Calculate Factorial

**Factorial Calculation**

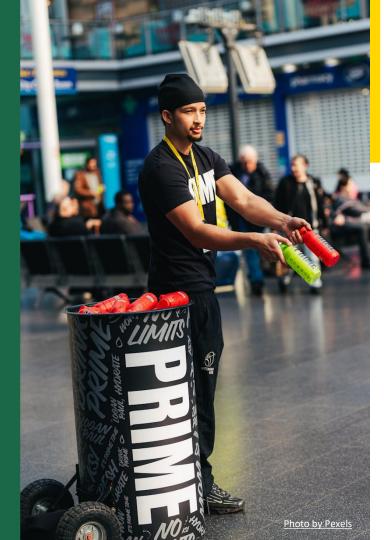- Function to calculate the factorial of a number

- Recursively calculates n!

- Factorial function in Python

- Example: def factorial(n): return n*factorial(n-1)

# Fibonacci Sequence

### Generate Fibonacci

- Function to generate the Fibonacci sequence up to n terms

- Generates Fibonacci numbers up to n

- Fibonacci sequence generator

- Example: def fibonacci(n): return fibonacci sequence

# Check Prime

**Prime Number Checker**

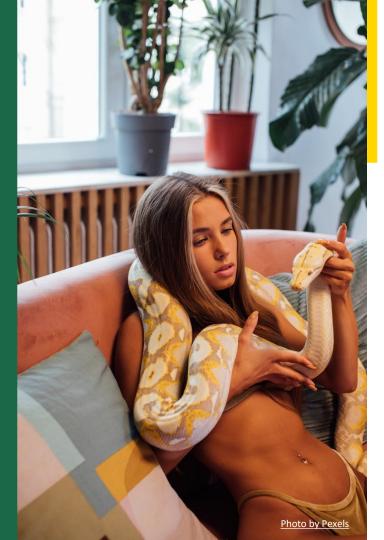- Function to check if a number is prime in Python

- Evaluates whether a number is prime or not

- Prime number checking function

- Example: def is_prime(n): return True if prime

# Find GCD

**Greatest Common Divisor**

- Function to find the greatest common divisor of two numbers

- Calculates the GCD using Euclidean Algorithm

- GCD finding function

- Example: def gcd(a, b): return gcd of a and b

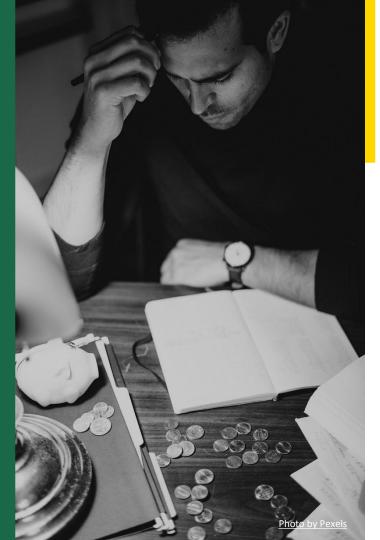# Find LCM

### Least Common Multiple

- Python function to find the least common multiple of two numbers
- Uses GCD to compute LCM
- LCM computation function
- Example: def lcm(a, b): return LCM of a and b

# Reverse String

### String Reversal

- Function to reverse a string in Python

- Reverses the input string

- String reversal function

- Example: def reverse_string(s): return reversed string

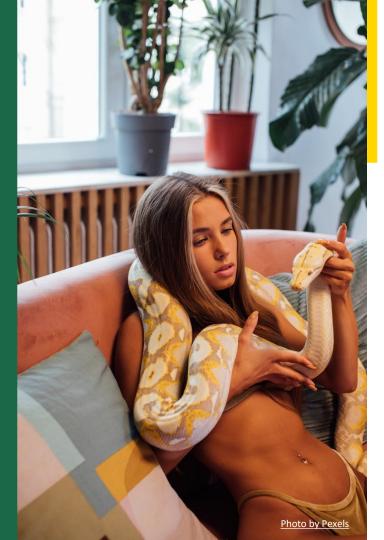# Count Vowels

**Vowel Counter**

- Function to count the number of vowels in a string

- Counts and returns the total vowels in the input

- Vowel counting function

- Example: def count_vowels(s): return number of vowels

# Check Palindrome

**Palindrome Checker**

- Function to check if a string is a palindrome in Python
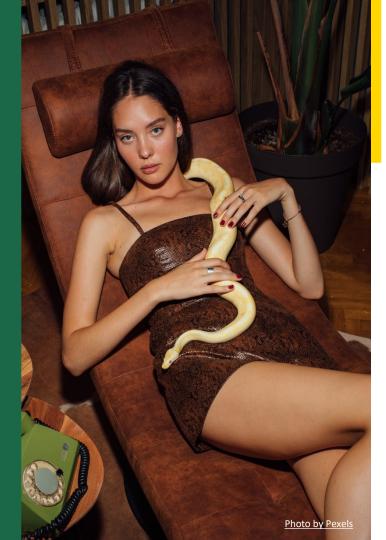
- Checks if the input string is a palindrome

- Palindrome checking function

- Example: def is_palindrome(s): return True if palindrome

# Convert to Uppercase

**Uppercase Converter**

- Function to convert a string to uppercase in Python

- Converts the input string to uppercase

- Uppercase conversion function

- Example: def to_uppercase(s): return string in uppercase

# Remove Duplicates

**Duplicate Remover**

- Function to remove duplicates from a list in Python
- Eliminates duplicate elements in the list
- Duplicates removal function
- Example: def remove_duplicates(lst): return list without duplicates

# Find Length

### List Length Finder

- Function to find the length of a list in Python

- Returns the number of elements in the list

- List length determination function

- Example: def find_length(lst): return length of the list

# Find Max

**Maximum Element Finder**

- Function to find the maximum element in a list in Python

- Identifies and returns the largest element

- Max element finding function

- Example: def find_max(lst): return the maximum value in the list

# Find Min

**Minimum Element Finder**

- Function to find the minimum element in a list in Python

- Detects and returns the smallest element

- Min element finding function

- Example: def find_min(lst): return the minimum value in the list

# List Comprehension

**Squares List Generator**

- Function to return a list of squares of elements in a list

- Generates a list containing squares of input elements

- Squares list generation function

- Example: def list_comprehension(lst): return list of squared elements

# Find Common Elements

**Common Elements Finder**

- Function to find common elements in multiple lists in Python

- Identifies elements present in all input lists

- Common elements identification function

- Example: def common_elements(*lists): return common elements