
▮ FUNCTIONS (Exercises 1–3)

1. Prime Number Checker

Write a function `is_prime(n)` that returns `True` if `n` is prime, else `False`. Use it to print all prime numbers between 1 and 100.

2. Temperature Converter

Write a function `convert_temp(value, unit)` that converts:

- Celsius to Fahrenheit
 - Fahrenheit to Celsius Use conditionals inside the function.
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3. Recursive Factorial Function

Create a function `factorial(n)` using **recursion** to return the factorial of a number.

▮ CLASSES (Exercises 4–7)

4. Class: Rectangle

- Attributes: `length`, `width`
 - Methods:
 - `area()`
 - `perimeter()`
 - `is_square()` → returns `True` if `length == width`
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5. Class: BankAccount

- Attributes: `name`, `balance`
 - Methods:
 - `deposit(amount)`
 - `withdraw(amount)`
 - `get_balance()`
 - Prevent withdrawal if balance is insufficient
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6. Class: Book

- Attributes: `title`, `author`, `price`, `in_stock`
 - Method: `sell(quantity)`
 - Reduces stock
 - Throws an error if quantity exceeds stock
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7. Student Grade System

Create a class `Student` with:

- Attributes: `name`, `marks` (a list)
 - Method:
 - `average()`
 - `grade()` – returns A/B/C/F based on average
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▮ INHERITANCE (Exercises 8–10)

8. `Person` → `Employee`

- Class `Person`: `name`, `age`
 - Class `Employee` inherits `Person`, adds `emp_id`, `salary`
 - Method `display_info()` shows all details
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9. `Vehicle` → `Car`, `Bike`

- Base Class: `Vehicle(name, wheels)`
 - Subclasses:
 - `Car`: additional attribute `fuel_type`
 - `Bike`: additional attribute `is_geared`
 - Override a method `description()` in both
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10. Polymorphism with Animals

- Base class `Animal` with method `speak()`
 - Subclasses `Dog`, `Cat`, `Cow` override `speak()` with unique sounds
 - Call `speak()` on each object in a loop
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