Python Programming Assignment

# Coding Exercises

# Exercise 1: Prime Numbers

Write a Python program that checks whether a given number is prime or not. A prime number is a natural number greater than 1 that has no positive divisors other than 1 and itself.

### Exercise 2: Product of Random Numbers

Develop a Python program that generates two random numbers and asks the user to enter the product of these numbers. The program should then check if the user's answer is correct and display an appropriate message.

### Exercise 3: Squares of Even/Odd Numbers

Create a Python script that prints the squares of all even or odd numbers within the range of 100 to 200. Choose either even or odd numbers and document your choice in the code.

Exercise 4:

**✅ Problem Statement (Question): Hospital Billing System**

A hospital charges its patients based on the following:

* **Room charges per day**: ₹2,000
* **Doctor consultation fee (flat)**: ₹1,500
* **Lab test charges**: Based on the number of tests taken. Each test costs ₹300
* **Medicine charges**: Total cost of medicines provided
* **Discount**: If the total bill (before discount) exceeds ₹10,000, a 10% discount is applied

Write a Python program to calculate the **final bill** for a patient who:

* Stayed for **4 days**
* Had **3 lab tests**
* Had medicine charges of ₹2,400