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📓 Day 1 – Python Programming Basics

📅 Date: **June 24, 2025**

◆ Overview of Day 1

On Day 1, we began our journey into Python programming — a widely-used, beginner-friendly language known for its clear syntax and powerful applications in fields like web development, automation, data science, and artificial intelligence.

The session focused on:

- Understanding Python syntax
- Taking user input
- Performing basic arithmetic operations
- Displaying output using `print()`

We practiced with three hands-on coding exercises to reinforce these concepts.

◆ Q1: Sum and Difference of Two Numbers

📝 Objective:

To calculate the sum and difference of two numbers entered by the user. This introduces:

- Taking integer input
- Type conversion
- Arithmetic operations
- Output formatting

💻 Python Code:

```
a = int(input("Enter first number: "))
b = int(input("Enter second number: "))
print("Sum:", a + b)
print("Difference:", a - b)
```

◆ Q2: Simple Interest and Total Amount Calculation

📝 **Objective:** To compute **Simple Interest** and the **total amount** using the formula:

Simple Interest = (Principal × Rate × Time) / 100
Amount = Principal + Simple Interest

This exercise demonstrates:

- Floating point inputs
- Formula-based calculations
- Real-world finance application

💻 Python Code:

```
p = float(input("Enter principal amount: "))
r = float(input("Enter rate of interest: "))
t = float(input("Enter time in years: "))
si = (p * r * t) / 100
amount = p + si
print("Simple Interest:", si)
print("Total Amount:", amount)
```

◆ Q3: Gross Salary, Tax, and Net Salary Calculation

📝 Objective:

To simulate salary calculation by computing:

- **Gross Salary** = Base + HRA - (EPF + PPF)
- **Tax Amount** based on a given tax rate
- **In-hand Salary** = Gross - Tax

This task involves:

- Practical use of variables
- Percentage calculations
- Real-life logic in a workplace scenario

💻 Python Code:

```
base = float(input("Base salary: "))
hra = float(input("HRA: "))
epf = float(input("EPF deduction: "))
ppf = float(input("PPF deduction: "))
salary = base + hra - epf - ppf
print("Gross Salary:", salary)

tax_rate = float(input("Tax rate (%): ")) / 100
tax_amount = salary * tax_rate
print("Tax Amount:", tax_amount)

in_hand_salary = salary - tax_amount
print("In-hand Salary:", in_hand_salary)
```