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(Ai) python  
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# **Python Fundamentals**

- Data Types,  
Operations & String  
Formatting**



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4. Arithmetic Operations	Addition (+), Subtraction (-), Multiplication (*), Division (/), Modulus (%), Exponentiation (**)	Performing mathematical calculations
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# Python Basics: Data Types & Operations

## 1. Data Types in Python

- str (String) → "bilal" (Text data)
- float (Floating-point Number) → 9.9 (Decimal number)
- int (Integer) → 2, 10, 5 (Whole numbers)
- bool (Boolean) → True, False (Logical values)



# Python Basics: Data Types & Operations

## 2. Using type() to Identify Data Types

**python Copy code**

```
number = 9.9
```

```
print(type(number)) # Output: <class 'float'>
```

✓ Helps check variable type dynamically.



# Python Basics: Data Types & Operations

## 3. String Formatting in Python

Using f-strings for String Interpolation

```
name = "bilal"
```

```
print(f"My name is {name}") # Output: My name is bilal
```

✓ f-strings allow dynamic insertion of variables into strings.



# Python Basics: Data Types & Operations

## 3.1. Multiline Strings using Triple Quotes (""" or ''')

```
print("""In this file:  
name = "bilal"  
number = 9.9  
""")
```

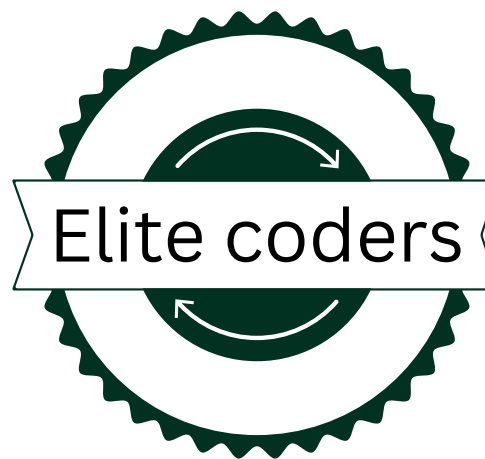
✓ Used for multi-line text display.



# Python Basics: Data Types & Operations

## 4. Arithmetic Operations in Python

Operation	Example	Symbol	Operation	Example	Symbol
Addition	<code>2 + 2</code>	<code>+</code>	Division	<code>10 / 5</code>	<code>/</code>
Subtraction	<code>2 - 2</code>	<code>-</code>	Modulus	<code>10 % 3</code>	<code>%</code>
Multiplication	<code>10 * 5</code>	<code>*</code>	Exponent	<code>5 ** 3</code>	<code>**</code>





# Python Basics: Data Types & Operations

## Example Code:

```
a = 10  
b = 5  
result = a * b  
print(f"Multiplication: {result}") # Output: Multiplication: 50
```



# Python Basics: Data Types & Operations

## 5. Assignment Example: Calculating Total People & Rabri Quantity

```
Total_faculty = 12
Administrative_staff = 4
Students = 100
Absentees = 15
totalpeople = Total_faculty + Administrative_staff + Students - Absentees
Rabri = 250 * totalpeople
totalRabri = f"{Rabri}g"
print(f"""Total People: {totalpeople}
Total Rabri: {totalRabri}
""")
```



# Python Basics: Data Types & Operations

## ✓ Logic:

- Calculate total people after removing absentees.
- Multiply total people by 250g to find the total Rabri required.

## ✓ Output:

Total People: 101

Total Rabri: 25250g



# Python Basics: Data Types & Operations

## Summary

- ✓ Python supports various data types (int, float, str, bool).
- ✓ f-strings simplify string formatting.
- ✓ Arithmetic operations are essential for calculations.
- ✓ Logical implementations (like the Rabri example) help solve real-world problems.



# Final Slide: Thank You! 🎉

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👤 Author & Creator: Syed Bilal Ali

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