



## 1. What is Python?

**Python is a programming language that's easy to read and understand. Think of it like a set of instructions you give to a computer to do tasks like adding numbers, creating apps, or analyzing data. It's popular because it's simple and powerful.**

## 2. Why is Python Used for Data Analysis and Data Science?

**Python is used in Data Analysis and Data Science because it has many ready-made tools (called libraries) that make it easier to work with data. For example, you can use it to quickly find patterns in data, create charts, or make predictions.**

## 3. Data Types in Python

**Python can handle different types of information:**

**Numbers: like 5 (integer) or 3.14 (float).**

**Words or text: like "hello" (string).**

**True or false: used in decisions (boolean).**



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## 4. Can We Do Addition Between str and int?

No, you can't add a number (int) to text (str) directly. Imagine trying to add 5 to the word "hello"—it doesn't make sense! But you can change the number to text or vice versa to make it work.

## 5. Can We Do Addition Between float and int?

Yes, you can add a number with decimals (float) and a whole number (int). For example, adding 3.5 and 2 will give you 5.5.

## 6. What Is the Condition for Adding Two Datasets?

When adding two datasets, they should be organized in a similar way. It's like combining two tables that need to have matching rows and columns so that every part fits together.

## 7. What is a Variable in Python?

A variable is like a box where you store information. For example, you can store a number, a name, or even a list of items in a variable, and give the box a name so you can find it later.

## 8. What Are the Rules for Declaring Variables?

Some rules:

The name must start with a letter (like a or b) or an underscore (\_).

**The rest can have letters, numbers, and underscores.**

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**You can't use spaces or start with a number.**

## **9. Operators in Python**

**Operators are symbols that tell the computer to do things like:**

**Add (+), Subtract (-), Multiply (\*), and Divide (/).**

**Compare two values (like == checks if they are equal).**

**Make decisions (like and, or).**

## **10. Arithmetic Operators**

**These operators are used for basic math operations:**

**Addition (+)**

**Subtraction (-)**

**Multiplication (\*)**

**Division (/)**

**Find remainder (%)**



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## 11. Comparison Operators

These compare two values:

Equal to (==)

Not equal to (!=)

Greater than (>)

Less than (<)