**Week 1 – Day 1: Python Syntax, Variables, and Data Types**

**🎯 Goal:**

To get comfortable with how Python *looks* and *behaves*—variables, comments, operators, and primitive types (int, float, str, bool).

**📚 Topics Covered:**

| **Concept** | **Description** | **Example** |
| --- | --- | --- |
| **Syntax** | Python uses indentation instead of {} | if x > 0:\n print("Positive") |
| **Comments** | For explaining code | # This is a comment |
| **Variables** | Store info in memory | name = "Josh" |
| **Data Types** | int, float, str, bool | age = 24, pi = 3.14, name = "Aoi Todo", is\_active = True |
| **Dynamic Typing** | No need to declare type | x = 5, then x = "five" works |
| **Type Checking** | Use type() function | type(5) → <class 'int'> |
| **Basic Ops** | +, -, \*, /, //, %, \*\* | 2\*\*3 = 8, 7 % 3 = 1 |
| **Printing** | print() supports strings & variables | print("Hello", name) |

**💻 Practice Exercises:**

python

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# 1. Create variables of different types

name = "Josh"

age = 25

height = 6.1

is\_muscular = True

# 2. Print out a fun sentence using all variables

print(f"My name is {name}, I'm {age} years old, {height} feet tall, and it's {is\_muscular} that I'm jacked.")

# 3. Try some basic math

a = 10

b = 3

print("Addition:", a + b)

print("Division:", a / b)

print("Floor Division:", a // b)

print("Exponentiation:", a \*\* b)

print("Modulo:", a % b)

# 4. Check data types

print(type(name))

print(type(age))

**🧠 Challenge:**

Try writing a mini script that prints a mock profile of you or a fictional character, including name, age, is\_student, favorite number, and height in inches and feet.

**📌 Task for Today:**

| **Task** | **Complete** |
| --- | --- |
| Relearn variables and data types | ✅ |
| Practice with print() and math ops | ✅ |
| Write a mock profile using string interpolation | 🔲 |
| Save notes in a .py or .ipynb file | 🔲 |