# Python Assignment: Data Types & Basic Operations

## 1️⃣ Integer (int) Type

Q1. Create a variable `a` with value `10` and `b` with value `25`.

- Find their sum, difference, product, and quotient.

- Check if `a` is greater than `b`.

## 2️⃣ Float (float) Type

Q2. Create a variable `x = 15.5` and `y = 4.2`.

- Perform addition, subtraction, multiplication, and division.

- Round off the result to 2 decimal places.

## 3️⃣ String (str) Type

Q3. Create a string variable with your full name.

- Print your first name and last name separately.

- Count the number of characters in your name.

- Convert your name to uppercase and lowercase.

## 4️⃣ Boolean (bool) Type

Q4. Create two variables `marks = 85`, `pass\_mark = 40`.

- Use boolean logic to check if the student has passed.

- Check if marks are between 80 and 100 using `and`.

## 5️⃣ None Type

Q5. Create a variable `x = None`

- Check the type of `x`.

- Assign a number to `x` and print the new type.

## 🔄 Type Conversion

Q6. Convert the following types:

- Convert int `5` to float

- Convert float `9.7` to int

- Convert number `101` to string

- Convert string `'25'` to int

- Try converting `'hello'` to int → What error do you get?

## ➕ Arithmetic Programming

Q7. Write a program that takes two numbers from the user and prints:

- Sum

- Difference

- Product

- Division

- Modulus

- Exponentiation (`a \*\* b`)

## 🧾 Variable Types

Q8. Create variables with the following names and assign appropriate values:

- `student\_name` (string)

- `roll\_number` (int)

- `percentage` (float)

- `is\_present` (bool)

Check and print the type of each variable using `type()`.