Day 01 – Python Basics: Arithmetic Operations & Data Types

- Understand and practice basic Python operations including arithmetic, data types, and the `type()` function.
- Performed basic arithmetic operations using `+`, `-`, `*`, `/`, `**`, `%`, and `//`.
- Identified data types using the `type()` function.
- Got familiar with Python's core types: int, float, complex, string, list, dict, set, tuple, and bool.

Arithmetic Operations

Below are some of the fundamental arithmetic operations supported in Python.

```
In [1]: print(3 + 2)   # addition (+)
        print(3 - 2)   # subtraction (-)
        print(3 * 2)   # multiplication (*)
        print(3 / 2)   # division (/)
        print(3 ** 2) # exponential (**)
        print(3 % 2)   # modulus (%)
        print(3 // 2)  # floor division (//)

5
1
6
1.5
9
1
1
```

Data Types in Python

Python supports several built-in data types. The `type()` function is used to check the type of a variable or value.

```
In [3]: print(type(10))            # Int
        print(type(3.14))          # Float
        print(type(1 + 3j))        # Complex
        print(type('Arman Pathan')) # String
        print(type([1, 2, 3]))     # List
        print(type({'name': 'Arman'}))  # Dictionary
        print(type({9.8, 3.14, 2.7}))   # Set
        print(type((9.8, 3.14, 2.7)))   # Tuple
        print(type(3 == 3))        # Bool
        print(type(3 >= 3))        # Bool

<class 'int'>
<class 'float'>
<class 'complex'>
<class 'str'>
<class 'list'>
<class 'dict'>
<class 'set'>
<class 'tuple'>
<class 'bool'>
<class 'bool'>
```