## 1. Data Types in Python

### Introduction

Python is a dynamically typed language, meaning you don't need to declare variable types explicitly. Python provides several built-in data types that handle different kinds of values.

**Common Data Types**

1. **Numeric Types**
   - int: Integer values (e.g., 10, -5, 1000)
   - float: Decimal values (e.g., 3.14, -0.5, 2.0)
   - complex: Complex numbers (e.g., 2+3j)
2. **Text Type**
   - str: String, represents text (e.g., "Hello", 'Python')
3. **Boolean Type**
   - bool: Represents True or False values.
4. **Sequence Types**
   - list: Ordered, mutable collection (e.g., [1, 2, 3])
   - tuple: Ordered, immutable collection (e.g., (10, 20, 30))
5. **Set Type**
   - set: Unordered collection of unique elements (e.g., {1, 2, 3})
6. **Dictionary Type**
   - dict: Key-value pairs (e.g., {"name": "John", "age": 25})

**Example Code**

```
num = 10          # Integer
pi = 3.14         # Float
name = "Alice"    # String
is_python = True # Boolean


data_list = [1, 2, 3, 4] # List
data_tuple = (10, 20, 30) # Tuple
data_set = {1, 2, 3} # Set
data_dict = {"name": "Alice", "age": 25} # Dictionary
print(type(num), type(name), type(data_dict))
```