

Day 1

Python

Python is a high-level interpreted programming language that is known for its simplicity, readability and versatility.

It is widely used for:

- web Development (Django, Flask)
- Data Science & machine learning (Pandas, Numpy, TensorFlow).
- Automation & scripting
- Game Development (Pygame)
- Cyber Security & Ethical Hacking

Python follows a clear and readable syntax that makes it an excellent choice for both beginners and advanced developers.

Day 2 Variables and Data Types

Variable:

A variable is a name given to a value stored in memory. It act as a container that holds data, which can be changed later in the program.

Data Types:

A data types defines what kind of data a variable can hold. Python has several built-in data types.

Common data types:

- int (integer) ⇒ $x = 10$
- float (floating) ⇒ $y = 3.14$
- str (string) ⇒ `name = "Alice"`
- bool (Boolean) ⇒ `is_valid = True`
- list (List) (ordered collection) ⇒ `fruits = ["apple", "banana", "cherry"]`
- tuple (immutable collection) ⇒ `coordinates = (10, 20)`
- dict (Dictionary) (key-value pairs) ⇒ `person = {"name": "John", "age": 30}`
- set (unordered unique values) ⇒ `unique_nums = {1, 2, 3, 4}`