

@score = 95

→ my-var = "Hello"

→ score = 95.

* Data types :-

A data type defines the kind of value a variable can hold and the operations that can be performed on it. Since Python is a dynamically typed language, the data type of a variable is determined automatically at runtime based on the assigned value.

1. Standard (Built-in) Data types

Python provides several built-in data types, categorized as follows:

1. Numeric types

- int → Integer numbers (e.g., 10, -25)
- float → Decimal numbers (e.g., 3.14, -2.5)
- complex → complex numbers (e.g., 3+4j)

2. Text type

- str → string (sequence of characters, e.g., "Hello")

3. Sequence types

- list → ordered, mutable collection (e.g., [1, 2, 3])
- tuple → ordered, immutable collection (e.g., (1, 2, 3))
- range → sequence of numbers (e.g., range(5))

4. Set types

- set → unordered, unique collection (e.g., {1, 2, 3})
- frozenset → immutable version of set

5. Mapping type

- dict → key-value pairs (e.g., {"name": "Alice", "age": 25})

6. Boolean type

- bool \rightarrow logical values true or false.

7. Binary types

- bytes, bytearray, memoryview used for handling binary data.

* Input and output functions :-

Input and output are handled primarily using the built-in functions `input()` and `print()`

1. Input function (`input()`)

- The `input()` function is used to take input from the user as a string.
- If numeric input is required, the string must be typecast `int` or `float`.

Syntax:-

variable = `input("prompt message;")`

Ex:-

```
name = input("Enter your name: ")
```

```
age = int(input("Enter your age: "))
```

```
print(f"Hello {name}, you are {age} years old.")
```

2. output function (`print()`)

- The `print()` function is used to display information to the console.
- supports multiple arguments, string formatting, and special parameters like `sep` and `end`.

Syntax:-

```
print(value1, value2, ..., sep = ' ', end = '\n')
```

ex:-

```
x, y = 10, 20
```

```
print("The sum is ", x+y)
```