

@ 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 → unorderable, 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 → 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)
```