



# PYTHON PROGRAMMING INTRODUCTION

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# WHAT IS PYTHON ?

- Python is a widely used programming language. It was released in 1991.
- It is used for :

Web Development

Data Analysis

Task Automation

Data Visualization

# VARIABLE DECLARATION

- A variable name must start with a letter or underscore character.
- It cannot start with a number.
- It can only contain characters from (A-z, 0-9 and \_).
- Variable names are case sensitive.
- It cannot be any python keyword.

Example: `num1 = 50, _name = "Dev"`

# DATATYPES IN PYTHON

- Numeric
- Text
- Sequence
- Boolean
- Set
- Mapping

# NUMERIC TYPE

- INT : It represents the whole numbers.

Example: 12, -56

- Float : It represents decimal values.

Example: 10.58, -5.01

- Complex : It represents complex numbers.

Example:  $1 + 3i$

# TEXT TYPE

- **STRING** : Represents a string of characters.

Example: `x = "Hello world"`

- It includes characters from A-z, 0-9, whitespaces & special characters.
- Strings have indexing for each character.
- Forward Indexing
- Backward Indexing

# SEQUENCE TYPE

- LIST : An ordered collection of items.

Example: [1, 2, 3]

- TUPLE : Immutable ordered collection of items.

Example: (1, 2, 3)

- RANGE : A sequence of numbers.

Example: range(5), range(1,7)

# SET TYPE

- SET : Unordered collection of unique items.

Example: {10, 20, 30}

- FROZENSET : Immutable Set.

Example: ({10, 20, 30})



# MAPPING TYPE

- **DICTIONARY** : A collection of Key-value pairs.

Example: { "Ram" : 20, "Aman" : 30, "Rahul" : 40 }

- It do not have any indexing principle.
- Every item is identified by its Key.
- Key : Ram, Aman, Rahul
- Values : 20, 30, 40

# BOOLEAN TYPE

- **BOOL** : A datatype which holds True or False value.

Example: `a = True`, `b = False`

- True value is considered as 1
- False value is considered as 0
- `Print(10 * False) = 0`