PYTHON TUTORIAL FOR BEGINNERS

Source: **www.youtube.com/@RishabhMishraOfficial**

Chapter – 13

Strings in Python (Part-2)

- String Indexing
- String Slicing
- String Methods

String Indexing

You can access individual characters in a string using their **index**. Python uses **zero-based** indexing, meaning the first character has an index of **0**. **Index:** Position of the character.
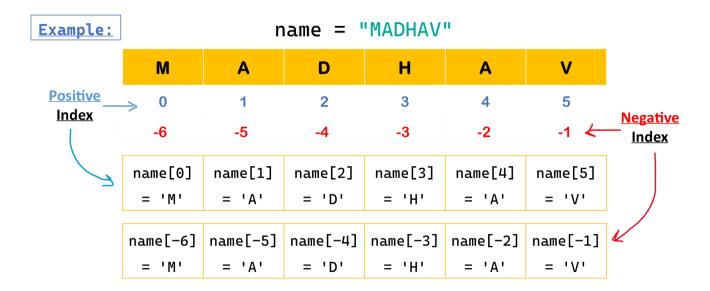
Syntax:

```
string[Index_Value]
```

Example:

```
name = "MADHAV"
```

M	A	D	H	A	V
0	1	2	3	4	5

Index ⟶

name[0] = 'M'	name[1] = 'A'	name[2] = 'D'	name[3] = 'H'	name[4] = 'A'	name[5] = 'V'

String Indexing – Positive & Negative Index

Example: name = "MADHAV"

M	A	D	H	A	V
0	1	2	3	4	5

Positive Index →

-6	-5	-4	-3	-2	-1

← Negative Index

name[0] = 'M'	name[1] = 'A'	name[2] = 'D'	name[3] = 'H'	name[4] = 'A'	name[5] = 'V'

name[-6] = 'M'	name[-5] = 'A'	name[-4] = 'D'	name[-3] = 'H'	name[-2] = 'A'	name[-1] = 'V'

String Slicing

Slicing in Python is a feature that enables **accessing parts** of the sequence. String slicing allows you to get subset of characters from a string using a specified **range of indices**.

Syntax:

```
string[start : end : step]
```

- **start** : The index to start slicing (inclusive). Default value is 0.
- **end**   : The index to stop slicing (exclusive). Default value is length of string.
- **Step** : How much to increment the index after each character. Default value is 1.

Example:

name = "MADHAV"

name[0:2] = 'MA'

name[0:5:2] = 'MDA'

M	A	D	H	A	V
0	1	2	3	4	5

String Slicing - Examples

Example:

0	1	2	3	4	5
M	A	D	H	A	V
-6	-5	-4	-3	-2	-1

```python
name = "MADHAV"

name[0:1] = name[:1] = 'M'          # first char
name[0:2] = name[:2] = 'MA'         # first 2 chars
name[2:5] = 'DHA'                   # third to fifth chars
name[5:] = name[-1:] = 'V'          # last char
name[4:] = name[-2:] = 'AV'         # last 2 chars
name[0:5:2] = name[0::2] = 'MDA'    # every second chars
name[1:-1] = 'ADHA'                 # exclude first & last chars
name[:] = name[::] = 'MADHAV'       # all chars
name[::-1] = 'VAHDAM'               # reverse the string
```

String Methods

Methods	Description
len()	returns the length of a string (the number of characters).
upper()	Converts a string into upper case
lower()	Converts a string into lower case
strip()	Removes any leading and trailing whitespace (including spaces, tabs, or newline characters).
count()	Returns the number of times a specified value occurs in a string
find()	Searches the string for a specified value and returns the position of where it was found
title()	Converts the first character of each word to upper case
split()	Splits the string at the specified separator, and returns a list
replace(old, new)	Replaces all occurrences of a substring with a new substring

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