# Python String Indexing and Slicing Practice

1. What is a string in Python?

Ans: In simple words, a string in Python is a piece of text. It can be a single letter, a word, or a whole sentence., a string is a sequence of characters (letters, numbers, or symbols) enclosed in quotes, such as:

- Single quotes: 'Hello'

- Double quotes: "Hello"

- Triple quotes: '''Hello''' or """Hello"""

1. What is indexing in a string?

Ans:**Indexing** in a string means accessing individual characters by their **position** (or index) in the string.

Python uses **zero-based indexing**, which means:

The **first character** has index 0

The **second character** has index 1, and so on

Negative indexing is also supported, where -1 refers to the **last character**

**Ex: P y t h o n**

**0 1 2 3 4 5 → Positive Indexes**

**-6 -5 -4 -3 -2 -1 → Negative Indexes**

1. Given text = 'hello', what is text[0]?
   1. What will be the output of text[4]?
   2. What does text[-1] give?

Ans:given

Text=”hello”

=The character at index 0 in the string “ hello”

Index character

0 h

1 e

2 l

3 l

4 o

So text(0)= h

=text(4)=o

=text(-1)=o

1. If name = 'Ajay', what is the value of name[0] + name[3]?
   1. What happens if you try name[10]?

Ans:-given

Name =’ajay ‘

Index character:

0 A

1 j

2 a

3 y

So, name(0)=A

Name(3)=y

(0+3)(a+y)= AY

**=here we have only 4 strings(0 to 3)**

**It shows that stri ng index out of range**

1. Given s = 'Python', what is s[0:2]?
   1. What does s[5:1] return?

Ans:- s=”python”

s[0:2]=py

S[5:1]

Empty string

1. Predict the output for string s = 'Python' . If the code is print(s[2: -1 :2])

Ans:-given s=”python”

Print(s(2:-1:1)

python

12345

2=t,-1=n,2=t

So slice from the index 2 to 4(-1)is index 5

Index 2 → 't'

Index 4 → '0'

1. Write code to print the last 3 letters of 'elephant'.

Ans:-word=”elephant”

Print(word(-3))

Output:-ant

1. How to get only the middle 3 letters from 'Science'?

Ans:-The word 'Science' has **7 characters**:

Index: 0 1 2 3 4 5 6

Letters: S c i e n c e

Middle 3 letters = 'ien' → indexes **2 to 4** (inclusive)

In slicing:

The **start index is included**

The **end index is excluded**

So you slice from **index 2 to index 5**:

1. What is the difference between s[2:5] and s[2:5:1]?

Ans:-Both s[2:5] and s[2:5:1] are slices of a string s.

s[2:5] and s[2:5:1] both get characters from position 2 to 4.

The second one just adds a step of 1, which is already the default so they give the same result.