

Python Substring

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To find substring of a string in Python, you can use slicing method.

Following is the syntax of slicing to get substring.

```
string[start:stop]
```

where the slicing happens on `string` string from `start` to `stop-1`. `start` and `stop` are indexes, so, please note that the index starts from `0`.

`start` and `stop` are optional and can also accept any integer, both positive and negative.

If you do not provide `start`, the slicing of the string starts from the beginning. In other words default value of start is `0`.

If you do not provide `stop`, the slicing of the string happens till the end of the string. In other words default value of stop is length of the string.

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```
string      t u t o r i a l k a r t
            0 1 2 3 4 5 6 7 8 9 10 11

string[2:7]      t o r i a
string[:7]       t u t o r i a
string[2:]       t o r i a l k a r t
string[3:-5]     o r i a
string[-10:-]   t o r i
string[:6]       t u t o r i a l k a r t
```

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Python Substring

In this tutorial, we will go through all of the scenarios including positive, optional and negative values for `start` and `stop` parameters.

Example 1 – Python Substring

In this example, we shall initialize a string, and find the substring that starts from a specific start position and ends at specific end position.

example.py – Python Program

```
string = 'tutorialkart'  
start = 2  
stop = 7  
#find substring  
substring = string[start:stop]  
print(substring)
```

Run the above program.

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Example 2 – Python Substring – No start specified

In this example, we shall initialize a string, and find the substring by specifying only stop position. We are leaving the start parameter empty. So, the slicing of string should happen from beginning of the string. Let us see.

example.py – Python Program

```
string = 'tutorialkart'  
stop = 7  
#find substring  
substring = string[:stop]  
print(substring)
```

Run the above program.

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Example 3 – Python Substring – No stop specified

In this example, we shall initialize a string, and find the substring by specifying only start position. We do not provide any value for start parameter. So, the slicing of string should happen from specified start value till the ending of the string.

example.py – Python Program

```
string = 'tutorialkart'  
start = 5  
#find substring  
substring = string[start:]  
print(substring)
```

Run the above program.

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Example 4 – Python Substring – Start and Stop not provided

Let us not provide any start or stop positions. We know that if start is not provided, slicing happens from

starting of the string. Also, if no stop position is provided, the slicing happens till the end of the string. There if we do not provide any start or stop positions, the resulting substring will be just a copy of the original string.

example.py – Python Program

```
string = 'tutorialkart'  
#find substring  
substring = string[:]  
print(substring)
```

Run the above program.

```
tutorialkart
```

Example 5 – Python Substring – Negative Stop Position

We can provide a negative number for stop parameter. Negative position mean that you have to consider the end of the string to get to calculate the position.

In the following example, we have taken stop as `-2`. So, resulting stop would be `len(string)-2`.

example.py – Python Program

```
string = 'tutorialkart'  
start = 5  
stop = -2  
#find substring  
substring = string[start:stop]  
print(substring)
```

Run the above program.

```
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```

Example 6 – Python Substring – Negative Start Position

As discussed in the previous example, the same explanation holds for the negative start value to find the substring.

`start = -10` means `start = len(string)-10`.

example.py – Python Program

```
string = 'tutorialkart'  
start = -10  
stop = 10  
#find substring  
substring = string[start:stop]  
print(substring)
```

Run the above program.

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Example 7 – Python Substring – Negative Start and Stop Positions

In this example, we provide negative values for both start and stop positions.

example.py – Python Program

```
string = 'tutorialkart'  
start = -10  
stop = -2  
#find substring  
substring = string[start:stop]  
print(substring)
```

Run the above program.

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Conclusion

In this [Python Tutorial](#), we learned how to find the substring of a string using slicing mechanism.

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