

PythonTip 02 - List Slicing

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1 List Slicing

List slicing is a way to get not just one element of a list, but a whole portion.

```
[33]: L = ["a", "b", "c", "d", "e", "f"]  
      L[2]
```

```
[33]: 'c'
```

`L[a:b]` means the portion of the list from index `a` (inclusive) to index `b` (exclusive).

```
[2]: L[2:5]
```

```
[2]: ['c', 'd', 'e']
```

If you leave out `a`, it starts from the beginning of the list. If you leave out `b`, it goes to the end.

```
[3]: L[:4]
```

```
[3]: ['a', 'b', 'c', 'd']
```

```
[4]: L[1:]
```

```
[4]: ['b', 'c', 'd', 'e', 'f']
```

```
[6]: R = L[:] # a copy of the list!
```

You can use a third piece `L[a:b:c]`, and `c` means how much to go up by each time.

```
[34]: L[1:5:2]
```

```
[34]: ['b', 'd']
```

```
[35]: L = list(range(0, 21))  
      print(L)
```

```
[0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20]
```

```
[37]: L[::3]
```

```
[37]: [0, 3, 6, 9, 12, 15, 18]
```

```
[ ]:
```

```
[38]: L[::-1]
```

```
[38]: [20, 19, 18, 17, 16, 15, 14, 13, 12, 11, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1, 0]
```

```
[39]: L[::-2]
```

```
[39]: [20, 18, 16, 14, 12, 10, 8, 6, 4, 2, 0]
```

Lastly, you can use negative indexing too. For example, to get the last 3 elements of a list:

```
[40]: L[-3]
```

```
[40]: 18
```

```
[41]: L[-3:]
```

```
[41]: [18, 19, 20]
```

To get all except the last element:

```
[42]: L[:-1]
```

```
[42]: [0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19]
```

```
[ ]:
```