List slicing (selecting parts of lists) All Versions

Examples

Selecting a sublist from a list

```
lst = ['a', 'b', 'c', 'd', 'e']

lst[2:4]
# Output: ['c', 'd']

lst[2:]
# Output: ['c', 'd', 'e']

lst[:4]
# Output: ['a', 'b', 'c', 'd']
```

Using the third "step" argument

```
lst = ['a', 'b', 'c', 'd', 'e', 'f', 'g', 'h']

lst[::2]
# Output: ['a', 'c', 'e', 'g']

lst[::3]
# Output: ['a', 'd', 'g']
```

Reversing a list with slicing

```
a = [1, 2, 3, 4, 5]

# steps through the list backwards (step=-1)
b = a[::-1]

# built-in list method to reverse 'a'
a.reverse()
if a = b:
    print(True)

print(b)

# Output:
# True
# [5, 4, 3, 2, 1]
```

Shifting a list using slicing

```
def shift_list(array, s):
    """Shifts the elements of a list to the left or right.

    Args:
        array - the list to shift
        s - the amount to shift the list ('+': right-shift, '-': left-shift)

    Returns:
        shifted_array - the shifted list
    """
    # calculate actual shift amount (e.g., 11 --> 1 if length of the array is 5)
    s %= len(array)

    # reverse the shift direction to be more intuitive
    s *= -1

    # shift array with list slicing
    shifted_array = array[s:] + array[:s]

    return shifted_array

my_array = [1, 2, 3, 4, 5]
```

```
my_array = [1, 2, 3, 4, 5]

# negative numbers
shift_list(my_array, -7)
>>> [3, 4, 5, 1, 2]

# no shift on numbers equal to the size of the array
shift_list(my_array, 5)
>>> [1, 2, 3, 4, 5]

# works on positive numbers
shift_list(my_array, 3)
>>> [3, 4, 5, 1, 2]
```

Syntax

```
a[start:end] # items start through end-1
```

```
a[start:] # items start through the rest of the array
```

```
a[:end] # items from the beginning through end-1
```

```
a[start:end:step] # start through not past end, by step
```

```
a[:] # a copy of the whole array
```

source

Parameters

Remarks

- `lst[::-1]` gives you a reversed copy of the list
- `start` or `end` may be a negative number, which means it counts from the end of the array instead of the beginning. So:

```
a[-1]    # last item in the array
a[-2:]   # last two items in the array
a[:-2]   # everything except the last two items
```

(source)