

list comprehension

List comprehension offers a shorter syntax in creating a new list based on values available in another sequence. It is worth mentioning that brevity comes at the cost of less interpretability.

*each element of the
iterable*

tuples, sets, other lists...

```
new_list= [expression for item in iterable if condition == True]
```

e.g.: mathematic expression

logical operation

Special case with else:

```
new_list= [expression if condition == True else other_expression  
           for item in iterable]
```

Example:

```
new_list = [num**2 for num in range(10) if num < 5]  
print(new_list)  
>> [0, 1, 4, 9, 16]
```