

What are list comprehension?

List comprehensions provide a quick way for creating a list with Python. Note this format allows you to save space, method takes advantage of horizontal code instead of working vertical. Caution, your goal as a programmer is writing code that can be read and reproduced, not necessarily saving space.

```
In [1]: 1 string = 'Star'
```

```
In [2]: 1 list = []  
2  
3 for letter in string:  
4     list.append(letter)
```

```
In [3]: 1 list
```

```
Out[3]: ['S', 't', 'a', 'r']
```

AN EASIER WAY TO DO THE ABOVE CODE AND TAKE UP LESS SPACE IS AS FOLLOWS

```
In [4]: 1 list = [letter for letter in string]
```

```
In [5]: 1 list
```

```
Out[5]: ['S', 't', 'a', 'r']
```

```
In [13]: 1 list = [s for s in 'Star']
```

```
In [14]: list
```

```
Out[14]: ['S', 't', 'a', 'r']
```

```
In [15]: 1 list = [num for num in range(0,5)]
```

```
In [16]: 1 list
```

```
Out[16]: [0, 1, 2, 3, 4]
```

```
In [17]: 1 list = [x for x in range(0,37) if x%2==0]
```

```
In [18]: 1 list
```

```
Out[18]: [0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36]
```

ELSE STATEMENTS APPLYING LIST COMPREHENSION FORMAT

```
In [19]: 1 outcome = [s if s%2==0 else 'ODD' for s in range(0,10)]
```

```
In [21]: 1 outcome
```

```
Out[21]: [0, 'ODD', 2, 'ODD', 4, 'ODD', 6, 'ODD', 8, 'ODD']
```
