List Comprehension are a unique way of quickly creating a list with python.

In [1]:
```
mystring = 'hello'
```

In [2]:
```
mylist = []

for letter in mystring:
    mylist.append(letter)
```

In [3]:
```
mylist
```

Out[3]:
```
['h', 'e', 'l', 'l', 'o']
```

In [7]:
```
mystring = [letter for letter in mystring]
```

In [8]:
```
mystring
```

Out[8]:
```
['h', 'e', 'l', 'l', 'o']
```

In [9]:
```
mylist = [x for x in 'word']
```

In [10]:
```
mylist
```

Out[10]:
```
['w', 'o', 'r', 'd']
```

In [11]:
```
mylist = [wywyw for wywyw in 'wordto']
```

In [12]:
```
mylist
```

Out[12]:
```
['w', 'o', 'r', 'd', 't', 'o']
```

In [13]:
```
mylist = [x for x in range (0,11)]
```

In [14]:
```
mylist
```

Out[14]:
```
[0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
```

In [15]:
```
mylist = [x**2 for x in range (0,11)]
```

In [16]:
```
mylist
```

Out[16]:
```
[0, 1, 4, 9, 16, 25, 36, 49, 64, 81, 100]
```

In [17]:
```
mylist = [x for x in range (0,11) if x%2==0]
```

In [18]:
```
mylist
```

Out[18]:
```
[0, 2, 4, 6, 8, 10]
```

In [19]:
```
mylist = [x**2 for x in range (0,11) if x%2==0]
```

In [20]:
```
mylist
```

Out[20]:
```
[0, 4, 16, 36, 64, 100]
```

In [21]:
```
celcius = [0,10,20,34.5]

fahrenheit = [(9/5)*temp+ 32 for temp in celcius]
```

In [22]:
```
fahrenheit
```

Out[22]:
```
[32.0, 50.0, 68.0, 94.1]
```

In [24]:
```
fahrenheit = []

for temp in celcius:
    fahrenheit.append(((9/5)*temp+ 32))
```

In [25]:
```
fahrenheit
```

Out[25]:
```
[32.0, 50.0, 68.0, 94.1]
```

In [26]:
```
results = [x if x%2==0 else 'ODD' for x in range(0,11)]
```

In [27]:
```
results
```

Out[27]:
```
[0, 'ODD', 2, 'ODD', 4, 'ODD', 6, 'ODD', 8, 'ODD', 10]
```

In [28]:
```
mylist = []

for x in[2,4,6]:
    for y in [100,200,300]:
        mylist.append(x*y)
```

In [29]:
```
mylist
```

Out[29]:
```
[200, 400, 600, 400, 800, 1200, 600, 1200, 1800]
```

In [30]:
```
mylist = []

for x in[2,4,6]:
    for y in [1,10,1000]:
        mylist.append(x*y)
```

In [31]:
```
mylist
```

Out[31]:
```
[2, 20, 2000, 4, 40, 4000, 6, 60, 6000]
```

In [32]:
```
mylist =[x*y for x in [2,4,6] for y in [1,10,100]]
```

In [33]:
```
mylist
```

Out[33]:
```
[2, 20, 200, 4, 40, 400, 6, 60, 600]
```

In [ ]:
```

```