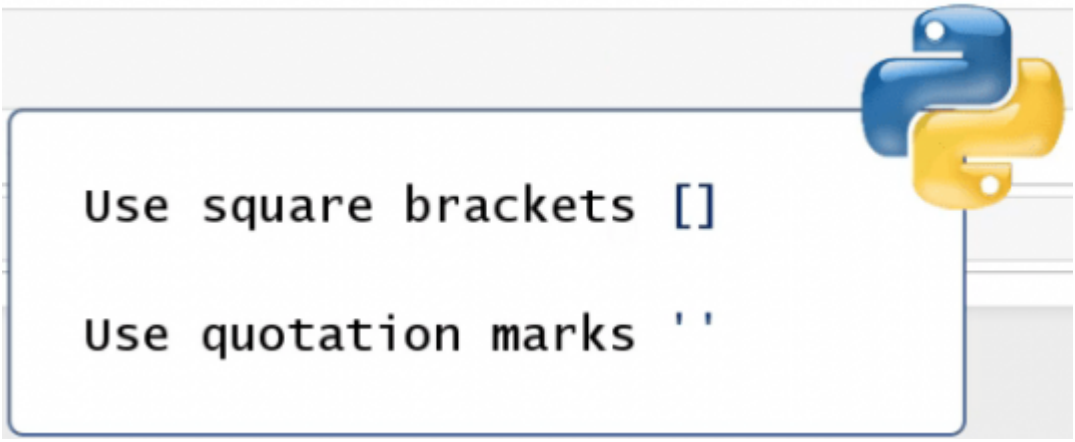
What is a List?

A list is a type of sequence of data points such as floats, integers, or strings.

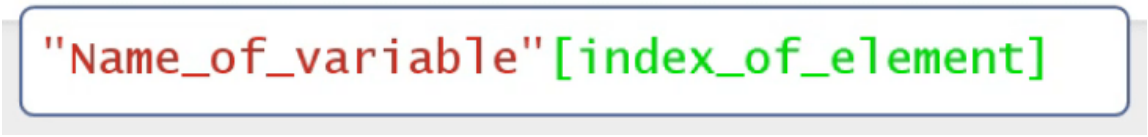


In [1]:
```
Names = ['Python', 'Anaconda', 'Jupyter Notebook', 'MySQL']
print(Names)
```

```
['Python', 'Anaconda', 'Jupyter Notebook', 'MySQL']
```

Extract Elements

Like how we extract a letter from a string, we use the same technique here.



In [2]:
```
Names[1]
```

Out[2]:
```
'Anaconda'
```

In [3]:
```
Names[1][5]
```

Out[3]:
```
'n'
```

In [4]:
```
print("We are using:", Names[0])
```

```
We are using: Python
```

Another Way to Extract Elements

A string can be a combination of spaces and In addition, there is a way to get to the last element from a list in **Python** – start counting from the end towards the beginning. Then, we'd need the minus sign before the digit and we should not be thinking that we begin enumerating from 0 again!:

In [5]:
```
Names[-1]
```

Out[5]:
```
'MySQL'
```

Replacing items

In [6]:
```
Names[-1] = 'Oracle'
Names
```

Out[6]:
```
['Python', 'Anaconda', 'Jupyter Notebook', 'Oracle']
```

Deleting items

In [7]:
```
del Names[3]
Names
```

Out[7]:
```
['Python', 'Anaconda', 'Jupyter Notebook']
```

In [8]:
```
Names.remove('Jupyter Notebook')
Names
```

Out[8]:
```
['Python', 'Anaconda']
```

.append()

In [8]:
```
Names.append("Jupyter Notebook'")
Names
```

Out[8]:
```
['Python', 'Anaconda', "Jupyter Notebook'"]
```

.extend()

Merging Multiple Lists

In [4]:
```
Names1 = ["mySQL", "Oracle"]
```

In [5]:
```
Names.extend(Names1)
Names
```

Out[5]:
```
['Python', 'Anaconda', 'mySQL', 'Jupyter Notebook', 'mySQL', 'Oracle']
```

.insert()

In [10]:
```
del Names[2:3]
Names
```

Out[10]:
```
['Python', 'Anaconda', 'mySQL']
```

In [10]:
```
Names.insert(2,"Jupyter Notebook")
print(Names)
```

```
['Python', 'Jupyter Notebook']
```

pop()

In [9]:
```
Names.pop()
```

Out[9]:
```
'Anaconda'
```

In [11]:
```
print(Names)
```

```
['Python', 'Jupyter Notebook']
```

In [12]:
```
Names.append("mySQL")
Names
```

Out[12]:
```
['Python', 'Jupyter Notebook', 'mySQL']
```

In [13]:
```
Names.pop(1)
```

Out[13]:
```
'Jupyter Notebook'
```

In [14]:
```
print(Names)
```

```
['Python', 'mySQL']
```

In [15]:
```
Names.insert(1,"Anaconda")
Names
```

Out[15]:
```
['Python', 'Anaconda', 'mySQL']
```

len()

In [16]:
```
len(Names)
```

Out[16]:
```
3
```

Slicing a List

In [20]:
```
Names = ['Python', 'Anaconda', 'mySQL', 'Jupyter Notebook', 'Oracle']
Names
```

Out[20]:
```
['Python', 'Anaconda', 'mySQL', 'Jupyter Notebook', 'Oracle']
```

In [21]:
```
Names[1:4:1]  # Names[1:4]
```

Out[21]:
```
['Anaconda', 'mySQL', 'Jupyter Notebook']
```

In [22]:
```
Names[1:4:2]
```

Out[22]:
```
['Anaconda', 'Jupyter Notebook']
```

In [9]:
```
Names[:4]    # [0:4:1]
```

Out[9]:
```
['Python', 'Anaconda', 'Jupyter Notebook', 'MySQL']
```

In [11]:
```
Names[2:]    # [2: len(Names): 1]
```

Out[11]:
```
['Jupyter Notebook', 'MySQL']
```

In [92]:
```
Names[3:5]
```

Out[92]:
```
['mySQL', 'Oracle']
```

In [93]:
```
Names[3:]
```

Out[93]:
```
['mySQL', 'Oracle']
```

In [24]:
```
Names = ['Python', 'Anaconda', 'Jupyter Notebook', 'mySQL', 'Oracle']
Names
```

Out[24]:
```
['Python', 'Anaconda', 'Jupyter Notebook', 'mySQL', 'Oracle']
```

In [25]:
```
Names[::-1]
```

Out[25]:
```
['Oracle', 'mySQL', 'Jupyter Notebook', 'Anaconda', 'Python']
```

In [26]:
```
Names[3:0:-1]
```

Out[26]:
```
['mySQL', 'Jupyter Notebook', 'Anaconda']
```

In [14]:
```
Names[0:3:-1]
```

Out[14]:
```
[]
```

In [96]:
```
Names[::-2]
```

Out[96]:
```
['Oracle', 'Jupyter Notebook', 'Python']
```

.index()

In [27]:
```
Names.index("mySQL")
```

Out[27]:
```
3
```

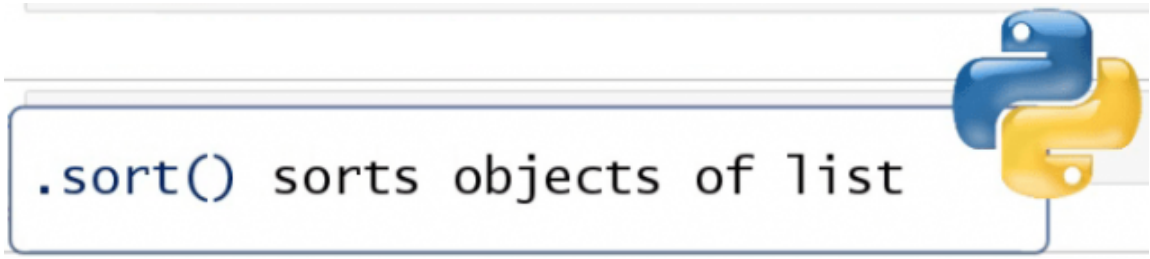
In [21]:
```
"mySQL" in Names
```

Out[21]:
```
True
```

In [23]:
```
a = input("Enter a Word: ")
if a in Names:
    print("Given word", a, "exists in the List")
else:
    print("Given word", a, "does not exist in the List")
```

```
Enter a Word: Oracle
Given word Oracle does not exist in the List
```

.sort()



In [28]:
```
Names.append('mysql')
```

In [29]:
```
Names.append('MySQL')
Names
```

Out[29]:
```
['Python', 'Anaconda', 'Jupyter Notebook', 'mySQL', 'Oracle', 'mysql', 'MySQL']
```

In [30]:
```
Names.sort()
Names
```

Out[30]:
```
['Anaconda', 'Jupyter Notebook', 'MySQL', 'Oracle', 'Python', 'mySQL', 'mysql']
```

In [7]:
```
Names.sort(reverse=True)
Names
```

Out[7]:
```
['mysql', 'Python', 'MySQL', 'Jupyter Notebook', 'Anaconda']
```

In [29]:
```
print(Names * 2)
```

```
['Python', 'MySQL', 'Jupyter Notebook', 'Anaconda', 'Python', 'MySQL', 'Jupyter No
tebook', 'Anaconda']
```

In [ ]:
```

```