

## Python Basics for Data Science

### Module 2: Python Data Structures

Class or Method	Description	Example
<code>&lt;varname&gt;[-&lt;index&gt;]</code>	A negative index counts from the last value in a list or a tuple.	<pre>myList=['a','b','c','d','e','f'] #myValue is assigned 'e' myValue=myList[-2]</pre>
<code>&lt;varname&gt;[&lt;index1&gt;:&lt;index2&gt;]</code>	Slice a list or a tuple.	<pre>myList=['a','b','c','d','e','f'] # myValues=['c','d','e'] myValues=myList[2:5]</pre>
<code>append()</code>	Add elements to the end of a list.	<pre>myList=['a','b','c','d','e','f'] # myList is assigned # myList=['a','b','c','d','e','f','g','h'] myList.append(['g','h'])</pre>
<code>&lt;varname&gt;[&lt;index&gt;]=&lt;value&gt;</code>	Change the value of an element by its index.	<pre>myList=['a','b','c','d','e','f'] #myList is now ['z','b','c','d','e','f'] myList[0]='z'</pre>
<code>del()</code>	Deletes a value from a list.	<pre>myList=['a','b','c','d','e','f'] #myList is now =['b','c','d','e','f'] del(myList[0])</pre>
<code>split()</code>	Convert a string to a list. Every group of characters separated by a space becomes an element.	<pre>myList="hard rock" #myValues is assigned ['hard', 'rock'] MyValues=myList.split()</pre>
<code>sorted()</code>	Sort a tuple, returns a list.	<pre>myList=('d','c','a','e','b','f') #myValues is assigned ['a','b','c','d','e','f'] myValues=sorted(myList)</pre>
<code>&lt;varname&gt;={&lt;key1&gt;:&lt;value1&gt;,&lt;key2&gt;:&lt;value2&gt;...&lt;keyi&gt;:&lt;valuei&gt;}</code>	Create a dictionary and assign to a variable. Duplicated keys are not allowed.	<pre>Dict={"breed":"german shepherd", "color": "black", "gender":"female"}</pre>

**keys()**

Get all the keys in a dictionary. Returns a list.

```
Dict={"breed":"german shepherd", "color":
"black", "gender":"female"}
#getkeys is assigned ["breed", "color",
#"gender"]
getkeys=Dict.keys()
```

**values()**

Get all the values in a dictionary. Returns a list.

```
Dict={"breed":"german shepherd", "color":
"black", "gender":"female"}
#getvalues is assigned ["german shepherd",
#"black", "gender"]
getvalues=Dict.values()
```