



Basic Python #7

AI Mentorship



Outline

1. Python: PIP
2. Python: Collections
3. Python: Tuples
4. Python: Sets
5. Python: Scope



Python: PIP

PIP is a package manager for Python packages, or modules if you like.

A package contains all the files you need for a module.

Modules are Python code libraries you can include in your project.

Check if PIP is Installed

```
pip --version
```

Check if PIP is Installed

Find more packages at <https://pypi.org/>

Download a Package, ex: “camelcase” package

```
pip install camelcase
```



Python: PIP

Using a Package

```
import camelcase  
c = camelcase.CamelCase()  
txt = "hello world"  
print(c.hump(txt))
```

List Packages

```
pip list
```

Remove a Package

```
pip uninstall camelcase
```



Python: Collections

Data Types	Ordered	Changeable	Duplication
Lists	Yes	Yes	Yes
Tuples	Yes	No	Yes
Sets	No	Yes	No
Dictionaries	No	Yes	No



Python: Tuples

A tuple is a collection which is ordered and **unchangeable**. In Python tuples are written with round brackets.

Create a Tuple

```
thistuple = ("apple", "banana", "cherry")  
print(thistuple)
```

Access Tuple Items

```
thistuple = ("apple", "banana", "cherry")  
print(thistuple[1])
```



Python: Sets

A set is a collection which is unordered and unindexed. In Python, sets are written with curly brackets.

Create a Set

```
thisset = {"apple", "banana", "cherry"}  
print(thisset)
```

Access Items

You cannot access items in a set by referring to an index or a key.

But you can loop through the set items using a for loop.

```
thisset = {"apple", "banana", "cherry"}  
for x in thisset:  
    print(x)
```



Python: Sets

Add Items

```
thisset = {"apple", "banana", "cherry"}  
thisset.add("orange")  
print(thisset)
```

Remove Item

```
thisset = {"apple", "banana", "cherry"}  
thisset.remove("banana")  
print(thisset)
```




Python: Scope

A variable is only available from inside the region it is created. This is called scope.

Local Scope

A variable created inside a function belongs to the local scope of that function, and can only be used inside that function.

```
def myfunc():  
    x = 300  
    print(x)
```

```
myfunc()
```



Python: Scope

Global Scope

A variable created in the main body of the Python code is a global variable and belongs to the global scope.

```
x = 300
```

```
def myfunc():  
    print(x)
```

```
myfunc()  
print(x)
```