



Python Programming

Session 6

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TOPICS

Python Fundamentals and Programming

❖ Tuples

Multiple value in one variable

What if we wanted a variable which could have multiple value

We can use:

LIST

Tuple

Dictionary

Set



Tuples

- Tuples are used to store multiple items in a single variable.
- Tuples are one of the 4 built-in data types in python used to store collections of data.
- Tuple are written with round brackets.

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



Tuple features

Tuple Items are

1. Tuple items are indexed
 - the first item has index [0], the second item has index [1] and ...
2. ordered
 - When we say that tuples are ordered, it means that the items have a define order, and that order will not change.
3. unchangeable
 - Tuples are unchangeable, meaning that we can not change, add or remove items after the tuple has been created.
4. allow duplicate
 - Since they are indexed they can have items with the same value

Change Tuple Values

We know that tuples are immutable(unchangeable), but what if we wanted to add a new value to tuple ?

Answer :

1. Convert into a list

```
x = ("apple", "banana", "cherry")  
y = list(x)  
y[1] = "kiwi"  
x = tuple(y)
```

1. Add tuple to a tuple

```
thistuple = ("apple", "banana", "cherry")  
y = ("orange",)  
thistuple += y
```

Exercise #1

Research for how to remove items from a tuple?



Unpack Tuples

This is packing a tuple:

```
fruits = ("apple", "banana", "cherry")
```

This is unpacking a tuple:

```
fruits = ("apple", "banana", "cherry")  
  
(green, yellow, red) = fruits
```

- Here the number of variables must match the number of the values
- Else? Asterisk in tuples.



Asterisk in tuples

If the number of variable is less than the number of the values, we can add a * as an asterisk to a variable, to make that variable initialize to all the values left.

```
fruits = ("apple", "banana", "cherry", "strawberry", "raspberry")  
  
(green, yellow, *red) = fruits
```



Exercise #2

Research for how to join two tuples?

Research for the result of multiplying a tuple to a number?

Research for how does the `index()` method work in tuples?

Research for how does the `count()` method work in tuples?

