Pair Exercise: Tuples

Peter Gyorda April 10, 2025

For DSE5002

Sources

https://docs.python.org/3/tutorial/datastructures.html

a tuple is a sequence of values separated by commas, they do not need to be immutable

tuples are ordered and can be iterated, but they are immutable

```
In [3]: a=1,2,"bob",3,"cathy"
```

```
In [5]: a
```

```
Out[5]: (1, 2, 'bob', 3, 'cathy')
```

```
In [7]: # comprehension

        [print(val) for val in a]
```

```
1
2
bob
3
cathy
```

```
Out[7]: [None, None, None, None, None]
```

```
In [9]: #indexing

        a[1]
```

```
Out[9]: 2
```

```
In [13]:   #tuples are immutable, no changes allowed

           a_list = list(a)
           a_list[1] = 3
           a = tuple(a_list)
```

```
In [15]:   # we can combine tuples

           b=a,3,4,5

           b
```

Out[15]:   ((1, 3, 'bob', 3, 'cathy'), 3, 4, 5)

```
In [17]:   #b is a tuple
           # the first item in b is a tuple
           b[0]
```

Out[17]:   (1, 3, 'bob', 3, 'cathy')

```
In [19]:   len(b)
```

Out[19]:   4

```
In [21]:   #tuple unpacking

           w,x,y,z=b

           print(w)
           print(x)
           print(y)
           print(z)
```

```
(1, 3, 'bob', 3, 'cathy')
3
4
5
```

Tuples are useful for storing constants, as a sequence of fixed values of known length, in a fixed order

Tuples are faster than lists, which is the only meaningful distinction I can find :)