Python Tuple

Creating a Tuple:

```
# Empty tuple
empty_tuple = ()

# Tuple with elements
fruits = ("apple", "banana", "cherry", "durian")
```

Accessing Elements of a Tuple:

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

# Accessing individual elements
print(fruits[0])  # Output: apple
print(fruits[2])  # Output: cherry

# Negative indexing
print(fruits[-1])  # Output: durian
print(fruits[-2])  # Output: cherry
```

Tuple Slicing:

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

# Slicing a tuple
print(fruits[1:4])   # Output: ('banana', 'cherry', 'durian')
print(fruits[:3])    # Output: ('apple', 'banana', 'cherry')
print(fruits[2:])    # Output: ('cherry', 'durian', 'elderberry')
print(fruits[::2])   # Output: ('apple', 'cherry', 'elderberry')
```

Tuple Concatenation:

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

# Concatenating tuples
combined_fruits = fruits + more_fruits
print(combined_fruits)  # Output: ('apple', 'banana', 'cherry', 'durian')
```

Tuple Length:

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

# Getting the length of a tuple
length = len(fruits)
print(length)  # Output: 3
```

Unpacking Tuples:

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

# Unpacking a tuple into variables
fruit1, fruit2, fruit3 = fruits
print(fruit1)  # Output: apple
print(fruit2)  # Output: banana
print(fruit3)  # Output: cherry
```

Iterating over a Tuple:

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

# Iterating over a tuple
for fruit in fruits:
    print(fruit)
```

Checking if an Element Exists in a Tuple:

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

# Checking if an element exists in a tuple
print("banana" in fruits)   # Output: True
print("durian" in fruits)   # Output: False
```

Count:

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

# Counting the occurrences of an element in a tuple
count = fruits.count("banana")
print(count)  # Output: 2
```

Index:

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

# Finding the index of an element in a tuple
index = fruits.index("banana")
print(index)  # Output: 1
```

Tuple to List Conversion:

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

# Converting a tuple to a list
fruits_list = list(fruits)
print(fruits_list)  # Output: ['apple', 'banana', 'cherry']
```

Tuple Unpacking with an Asterisk (*) Operator:

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

# Unpacking a tuple using the asterisk (*) operator
first, *middle, last = fruits
print(first)    # Output: apple
print(middle)   # Output: ['banana', 'cherry', 'durian']
print(last)     # Output: elderberry
```

Tuple Comparison:

```
tuple1 = (1, 2, 3)
tuple2 = (4, 5, 6)

# Comparing tuples
result = tuple1 < tuple2
print(result)  # Output: True
```