



Python Programming - 2301CS404

Lab - 6

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Tuple

01) WAP to find sum of tuple elements.

```
In [3]: user_input = input("Enter the elements of the tuple separated by comma: ")

my_tuple = tuple(int(x) for x in user_input.split(','))

tuple_sum = sum(my_tuple)

print("The sum of the tuple elements is:", tuple_sum)
```

The sum of the tuple elements is: 15

02) WAP to find Maximum and Minimum K elements in a given tuple.

```
In [7]: user_input = input("Enter the elements of the tuple separated by comma: ")
my_tuple = tuple(int(x) for x in user_input.split(','))

k = int(input("Enter the value of K: "))

if k > len(my_tuple):
    print("K should not be greater than the number of elements in the tuple.")
else:
    sorted_tuple = sorted(my_tuple)
    min = sorted_tuple[:k]
    max = sorted_tuple[-k:]
```

```
# Print the results
print("Minimum K elements:", min)
print("Maximum K elements:", max)
```

Minimum K elements: [1, 2, 3]

Maximum K elements: [4, 5, 6]

03) WAP to find tuples which have all elements divisible by K from a list of tuples.

```
In [47]: num_tuples = int(input("Enter the number of tuples: "))
tuples_list = []

for _ in range(num_tuples):
    tuple_input = input("Enter the elements of the tuple separated by comma: ")
    tuple_elements = tuple(map(int, tuple_input.split(',')))
    tuples_list.append(tuple_elements)

k = int(input("Enter the value of K: "))

divisible_tuples = [i for i in tuples_list if all(x % k == 0 for x in i)]

print(f"Tuples with all elements divisible by {K} are:", divisible_tuples)
```

Tuples with all elements divisible by 1 are: [(25, 35, 45)]

04) WAP to create a list of tuples from given list having number and its cube in each tuple.

```
In [44]: user_input = input("Enter the elements of the tuple separated by commas: ")
my_tuple = tuple(int(x) for x in user_input.split(','))

cubed_tuples = [(i, i**3) for i in my_tuple]

print("List of tuples with number and its cube:", cubed_tuples)
```

List of tuples with number and its cube: [(1, 1), (2, 8), (3, 27), (4, 64), (5, 125)]

05) WAP to find tuples with all positive elements from the given list of tuples.

```
In [25]: num_tuples = int(input("Enter the number of tuples: "))
tuples_list = []

for _ in range(num_tuples):
    tuple_input = input("Enter the elements of the tuple separated by comma: ")
    tuple_elements = tuple(map(int, tuple_input.split(',')))
    tuples_list.append(tuple_elements)

positive_tuples = [i for i in tuples_list if all(x > 0 for x in i)]
```

```
print("Tuples with all positive elements are:", positive_tuples)
```

Tuples with all positive elements are: [(1, 2)]

06) WAP to add tuple to list and vice – versa.

```
In [1]: element=input("Enter element in tuple : ")
my_tuple=tuple(int(i) for i in element.split(','))

element=input("Enter element in list : ")
my_list=[int(i) for i in element.split(',')]

my_list.append(my_tuple)
print(my_list)

element=input("Enter element in list : ")
my_list2=[int(i) for i in element.split(',')]

new_tuple = my_tuple + tuple(my_list2)
print(new_tuple)
```

[4, 5, 6, (1, 2, 3)]
(1, 2, 3, 7, 8, 9)

07) WAP to remove tuples of length K.

```
In [29]: num_tuples = int(input("Enter the number of tuples: "))
tuples_list = []

for _ in range(num_tuples):
    tuple_input = input("Enter the elements of the tuple separated by comma: ")
    tuple_elements = tuple(map(int, tuple_input.split(',')))
    tuples_list.append(tuple_elements)

k = int(input("Enter the length of tuples to remove: "))

filtered_tuples = [i for i in tuples_list if len(i) != K]

print(f"Tuples after removing those of length {k} are:", filtered_tuples)
```

Tuples after removing those of length 1 are: [(2, 3), (4, 5, 6)]

08) WAP to remove duplicates from tuple.

```
In [31]: user_input = input("Enter the elements of the tuple separated by comma: ")
my_tuple = tuple(int(x) for x in user_input.split(','))

unique_tuple = tuple(set(my_tuple))
print("Tuple after removing duplicates:", unique_tuple)
```

Tuple after removing duplicates: (1, 2, 3, 4, 5)

09) WAP to multiply adjacent elements of a tuple and print that resultant tuple.

```
In [53]: user_input = input("Enter the elements of the tuple separated by comma: ")
my_tuple = tuple(int(x) for x in user_input.split(','))

result_tuple = tuple(my_tuple[i] * my_tuple[i+1] for i in range(len(my_tuple)-1)),
print("The resultant tuple is:", result_tuple)
```

The resultant tuple is: ((2, 6, 12, 20),)

10) WAP to test if the given tuple is distinct or not.

```
In [37]: user_input = input("Enter the elements of the tuple separated by comma: ")
my_tuple = tuple(int(x) for x in user_input.split(','))

if len(my_tuple) == len(set(my_tuple)):
    print("The tuple is distinct.")
else:
    print("The tuple is not distinct.")
```

The tuple is distinct.