

Practical 2: Study and Learn List, Tuple, Set and Dictionary

Git repository link: <https://github.com/Dhwani-S/Python-PIP.git>

Code:

```
#20CE140 Dhwani Suthar
#Python Practical 2

###Dictionary###

#a. Write a Python script to check whether a given key already exists in a
dictionary.
d1 = {"20CE140": "Dhwani", "20CE146": "Kavya", "20CE150": "Medha"}
print("Enter a Key:")
keys = input()
if keys in d1:
    print("Key exists")
else:
    print("key does not exist")

o/p:
Enter a Key:
20CE140
Key exists

#b. Write a Python script to merge two Python dictionaries.
d1 = {"20CE140": "Dhwani", "20CE146": "Kavya", "20CE150": "Medha"}
d2 = {"20CS024": "Dikshita"}
#d1= d1+d2
d1.update(d2)
print(d1)

o/p:
{'20CE140': 'Dhwani', '20CE146': 'Kavya', '20CE150': 'Medha', '20CS024': 'Dikshita'}

#c. Write a Python program to sum all the items in a dictionary.
price = {"Pen": 10, "Eraser": 5, "Books": 200}
list = []
for i in price:
    list.append(price[i])
total= sum(list)
print("Total: ",total)

o/p:
Total: 215

#d. Write a Python script to add a key to a dictionary.
#Sample Dictionary : {0: 10, 1: 20}
#Expected Result : {0: 10, 1: 20, 2: 30}
d1 = {"20CE140": "Dhwani", "20CE146": "Kavya", "20CE150": "Medha"}
```

```
print("Enter a key you want to add: ")
keys = input()
print("Enter the corresponding value: ")
values = input()
d1[keys] = values
print(d1)
```

o/p:

Enter a key you want to add:

Hello

Enter the corresponding value:

World

{'20CE140': 'Dhwani', '20CE146': 'Kavya', '20CE150': 'Medha', 'Hello': 'World'}

#e. Write a Python script to concatenate following dictionaries to create a new one.

```
#Sample Dictionary :
#dic1={1:10, 2:20}
#dic2={3:30, 4:40}
#dic3={5:50,6:60}
#Expected Result : {1: 10, 2: 20, 3: 30, 4: 40, 5: 50, 6: 60}
```

```
dic1={1:10, 2:20}
dic2={3:30, 4:40}
dic3={5:50,6:60}
dic1.update(dic2)
dic1.update(dic3)
print(dic1)
```

o/p:

{1: 10, 2: 20, 3: 30, 4: 40, 5: 50, 6: 60}

###Tuple###

#a. Write a Python program to create a tuple with different data types.
tp1 = ('item1', 'item2', 'item3',4,5, 1.1);
print(tp1)

o/p:

('item1', 'item2', 'item3', 4, 5, 1.1)

#b. Write a Python program to create a tuple with numbers and print one item.

```
tpnum = (1,2,3,4,5,6,7,8,9)
print('Number at index 1: ',tpnum[1])
```

o/p:

Number at index 1: 2

#c. Write a Python program to add an item in a tuple.

```
tpnum = tpnum + (10,) #This will create a new tuple with original values
and 10 at the end
print(tpnum)
```

o/p:

(1, 2, 3, 4, 5, 6, 7, 8, 9, 10)

#d. Write a Python program to convert a tuple to a string.

```
tp2 = ('d','h','w','a','n','i')
```

```
str = ''
```

```
for item in tp2:
```

```
    str = str + item
```

```
print('String: ',str)
```

o/p:

String: dhwani

#e. Write a Python program to find the length of a tuple.

```
tp3 = ('d','h','w','a','n','i')
```

```
print(len(tp3))
```

o/p:

6

###Set###

#a. Write a Python program to add member(s) in a set and clear a set

```
st1 = {1,2,3,4,5,6,7,8}
```

```
st1.add(9)
```

```
print("Set 1: ",st1)
```

```
#clearing the set:
```

```
st1.clear()
```

```
print(st1)
```

o/p:

Set 1: {1, 2, 3, 4, 5, 6, 7, 8, 9}
set()

#b. Write a Python program to remove an item from a set if it is present in the set.

```
# st1.remove('item1')) #not present so it won't be removed
```

```
st1 = {1,2,3,4,5,6,7,8,9}
```

```
st1.remove(9)
```

```
print(st1)
```

o/p:

{1, 2, 3, 4, 5, 6, 7, 8}

#c. Write a Python program to create an intersection, Union, difference of sets.

```
st1 = {0, 2, 4, 6, 8}
```

```
st2 = {1, 2, 3, 4, 5}
```

```
print("intersection :", st1 & st2)
```

```
print("union: ", st1|st2)
```

```
print("difference :", st1-st2)
```

o/p:

```
intersection : {2, 4}
union: {0, 1, 2, 3, 4, 5, 6, 8}
difference : {0, 8, 6}
```

```
#d. Write a Python program to find maximum and the minimum value in a set.
st1 = {0, 2, 4, 6, 8}
print('max: ', max(st1))
print('min: ', min(st1))
```

o/p:

```
max: 8
min: 0
```

```
#e. Write a Python program to find the most common elements and their
counts from list, tuple, dictionary
#list
lst = ['first', 'second', 'first', 'third', 'first', 'second', 'second', 'second']
count = 0
element = lst[0]
for i in lst:
    ctr = lst.count(i)
    if(ctr > count):
        count = ctr
        element = i
print(element)
```

o/p: **second**

```
#tuple
tp = ('first', 'second', 'first', 'third', 'first', 'second', 'second', 'second')
count = 0
element = tp[0]
for i in tp:
    ctr = tp.count(i)
    if(ctr > count):
        count = ctr
        element = i
print(element)
```

o/p: **second**

```
#dictionary
dic = {'1':1, '2':2, '3':3, '4':4, '5':2, '1':2}
tp = tuple(dic.values())
count = 0
element = tp[0]
for i in tp:
    ctr = tp.count(i)
    if(ctr > count):
        count = ctr
        element = i
print(element)
```

o/p: 2