Programming Lab - 1
Assignment - 8

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1. Write a Python script to perform below operations on list

a. Initialize a list lst=[1.5, “Python”, -5, 4, 0.8, -3.2, ‘C++’]

b. Add 0.8 to the list

c. Add [4,1.5,6,0.8] to the existing list

d. Insert any element at position 2.

e. Remove ‘C++’ from the list.

f. Remove element at position 5.

g. Find out the index of element 5.

h. Find out the occurrence of element 4.

i. Slice the list from 2nd to 6th position.

j. Reverse the list.

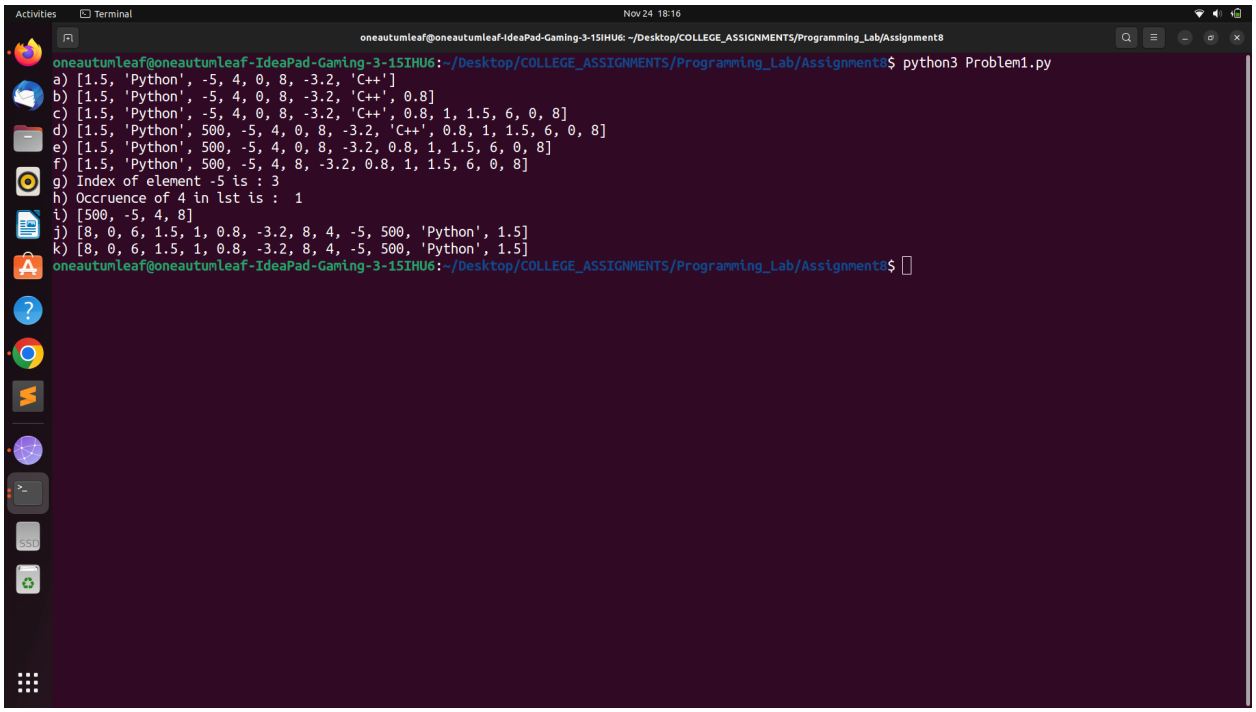
k. Create a copy of this list and display.

CODE -

```
lst = [1.5, "Python", -5, 4, 0, 8, -3.2, 'C++']
print('a)', lst)
lst.append(0.8)
print('b)', lst)
lst.extend([1, 1.5, 6, 0, 8])
print('c)', lst)
lst.insert(2, 500)
```

```
print('d)', lst)
lst.remove('C++')
print('e)', lst)
lst.pop(5)
print('f)', lst)
print('g)', 'Index of element -5 is :' ,lst.index(-5))
print('h)', 'Occruence of 4 in lst is : ', lst.count(4))
print('i)', lst[2:6])
lst.reverse()
print('j)', lst)
newLst = lst.copy()
print('k)', newLst)
```

OUTPUT -



2.Write a Python script to perform below operations on Dictionary

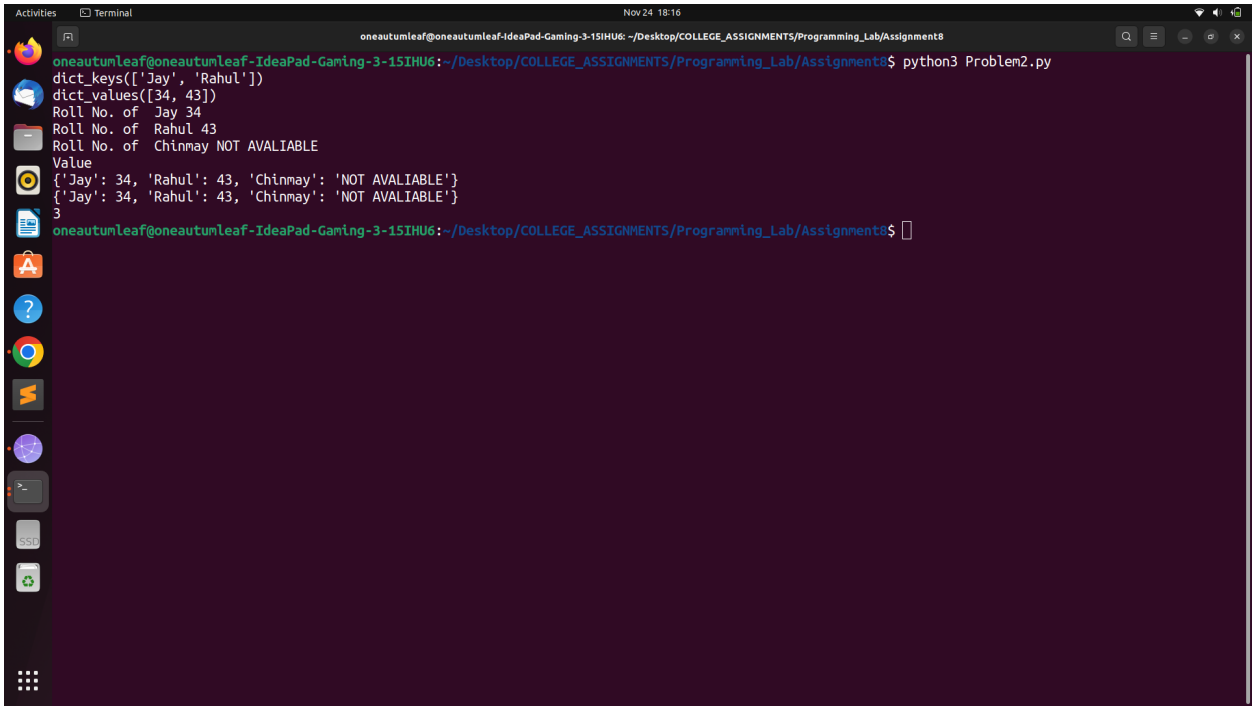
- **a. Create a dictionary**
- **b. Print keys and values of dictionary**
- **c. Search for a specific key, if found, display its value, if not display default value.**
- **d. Add new key and value**
- **e. Remove any element**

f. Copy this dictionary
g. Find out length of dictionary
h. Delete the dictionary

CODE -

```
newDict = {'Jay' : 34, 'Rahul' : 43}
print(newDict.keys())
print(newDict.values())
for name in ['Jay', 'Rahul', 'Chinmay']:
    newDict.setdefault(name, 'NOT AVALIABLE')
    print('Roll No. of ', name, newDict[name])
newDict['newKey'] = 'Value'
print(newDict['newKey'])
del newDict['newKey']
print(newDict)
copyDict = newDict.copy()
print(copyDict)
print(len(newDict))
del newDict
```

OUTPUT -



3.Create a function in python to perform swapping of two numbers using

a. Temporary variable

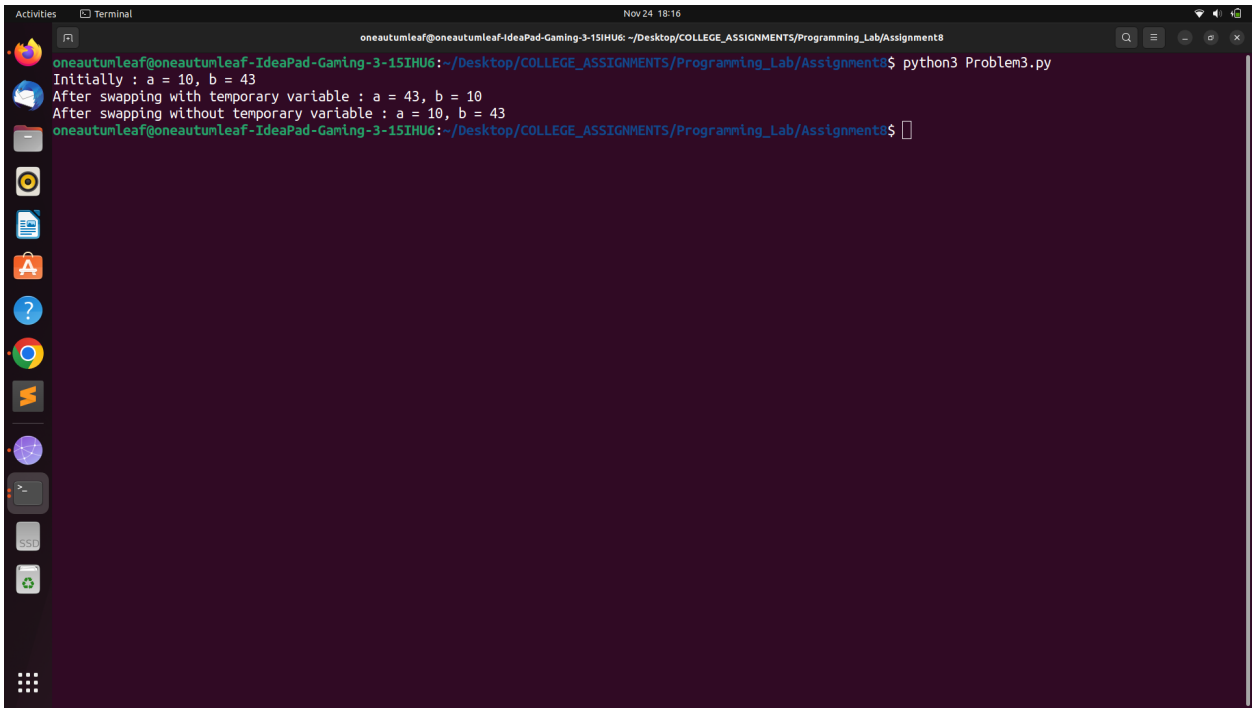
b. No Temporary variable

CODE -

```
def swapTemp(a, b):
    tmp = a
    a = b
    b = tmp
    return [a, b]
def swapWithoutTemp(a, b):
    a = a ^ b
    b = a ^ b
    a = a ^ b
    return [a, b]

a = 10
b = 43
print(f"Initially : a = {a}, b = {b}")
a, b = swapTemp(a, b)
print(f"After swapping with temporary variable : a = {a}, b = {b}")
a, b = swapWithoutTemp(a, b)
print(f"After swapping without temporary variable : a = {a}, b = {b}")
```

OUTPUT -



4.. Create a function in python to accept and return multiple arguments.

CODE -

```
import math
def analyze(a, b, c, d):
    mean = (a + b + c + d)
    variance = 0
    for x in [a, b, c, d]:
        variance += (x - mean) ** 2
    variance /= 4
    stdDeviation = math.sqrt(variance)
    return [mean, variance, stdDeviation]
a = 10
b = 43
c = 52
d = 352
print(f"The numbers are : a = {a}, b = {b}, c = {c}, d = {d}")
mean, var, stdDev = analyze(a, b, c, d)
```

print(f"Mean = {mean}, variance = {var}, standard deviation = {stdDev}")

OUTPUT -