

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)', 'Occurrence 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 -

```

oneautumleaf@oneautumleaf-IdeaPad-Gaming-3-15IHU6: ~/Desktop/COLLEGE_ASSIGNMENTS/Programming_Lab/Assignment8
oneautumleaf@oneautumleaf-IdeaPad-Gaming-3-15IHU6:~/Desktop/COLLEGE_ASSIGNMENTS/Programming_Lab/Assignment8$ python3 Problem1.py
a) [1.5, 'Python', -5, 4, 0, 8, -3.2, 'C++']
b) [1.5, 'Python', -5, 4, 0, 8, -3.2, 'C++', 0.8]
c) [1.5, 'Python', -5, 4, 0, 8, -3.2, 'C++', 0.8, 1, 1.5, 6, 0, 8]
d) [1.5, 'Python', 500, -5, 4, 0, 8, -3.2, 'C++', 0.8, 1, 1.5, 6, 0, 8]
e) [1.5, 'Python', 500, -5, 4, 0, 8, -3.2, 0.8, 1, 1.5, 6, 0, 8]
f) [1.5, 'Python', 500, -5, 4, 8, -3.2, 0.8, 1, 1.5, 6, 0, 8]
g) Index of element -5 is : 3
h) Occurrence of 4 in lst is : 1
i) [500, -5, 4, 8]
j) [8, 0, 6, 1.5, 1, 0.8, -3.2, 8, 4, -5, 500, 'Python', 1.5]
k) [8, 0, 6, 1.5, 1, 0.8, -3.2, 8, 4, -5, 500, 'Python', 1.5]
oneautumleaf@oneautumleaf-IdeaPad-Gaming-3-15IHU6:~/Desktop/COLLEGE_ASSIGNMENTS/Programming_Lab/Assignment8$

```

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 AVAILABLE')
    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 -

```
Activities Terminal Nov 24 18:16
oneautumleaf@oneautumleaf-IdeaPad-Gaming-3-15IHU6: ~/Desktop/COLLEGE_ASSIGNMENTS/Programming_Lab/Assignment8$ python3 Problem2.py
dict_keys(['Jay', 'Rahul'])
dict_values([34, 43])
Roll No. of Jay 34
Roll No. of Rahul 43
Roll No. of Chinmay NOT AVALIABLE
Value
{'Jay': 34, 'Rahul': 43, 'Chinmay': 'NOT AVALIABLE'}
{'Jay': 34, 'Rahul': 43, 'Chinmay': 'NOT AVALIABLE'}
3
oneautumleaf@oneautumleaf-IdeaPad-Gaming-3-15IHU6: ~/Desktop/COLLEGE_ASSIGNMENTS/Programming_Lab/Assignment8$
```

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

- Temporary variable
- 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}")
```

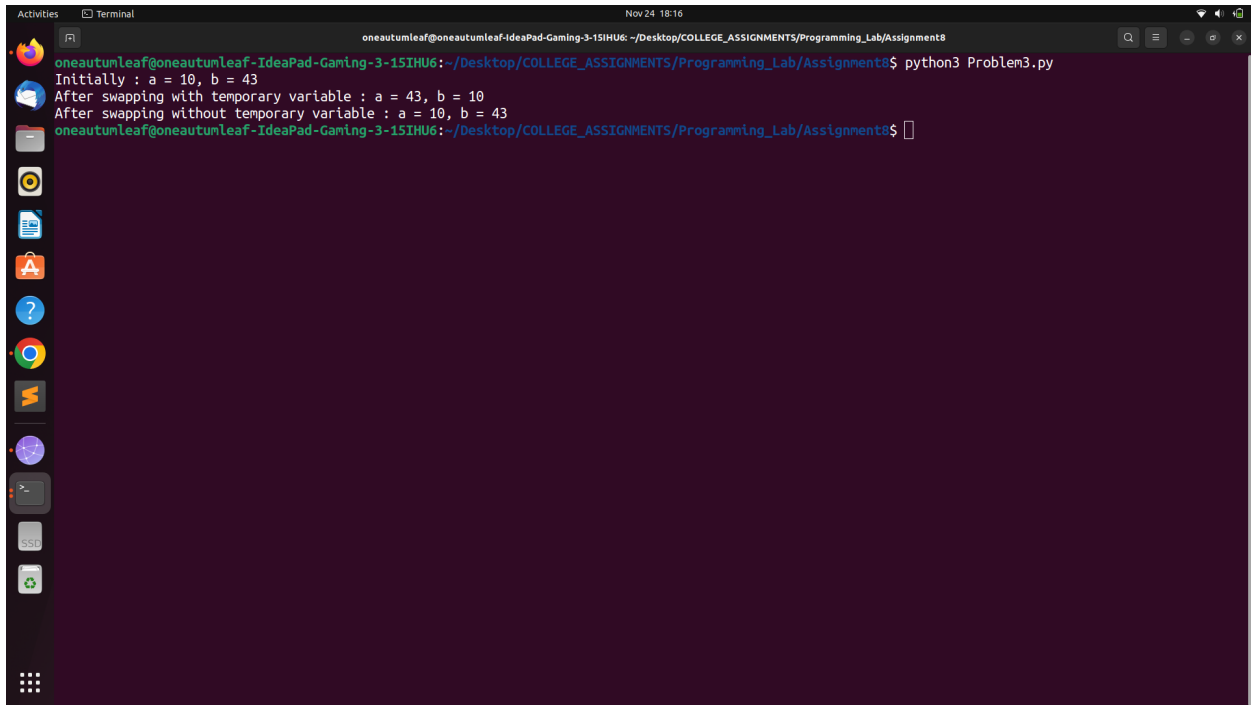
```
a, b = swapTemp(a, b)
```

```
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 -

A terminal window with a dark purple background. The prompt is 'oneautumleaf@oneautumleaf-IdeaPad-Gaming-3-15IHU6: ~/Desktop/COLLEGE_ASSIGNMENTS/Programming_Lab/Assignment8'. The command 'python3 Problem3.py' has been executed. The output is: 'Initially : a = 10, b = 43', 'After swapping with temporary variable : a = 43, b = 10', and 'After swapping without temporary variable : a = 10, b = 43'. The prompt is now '\$ '.

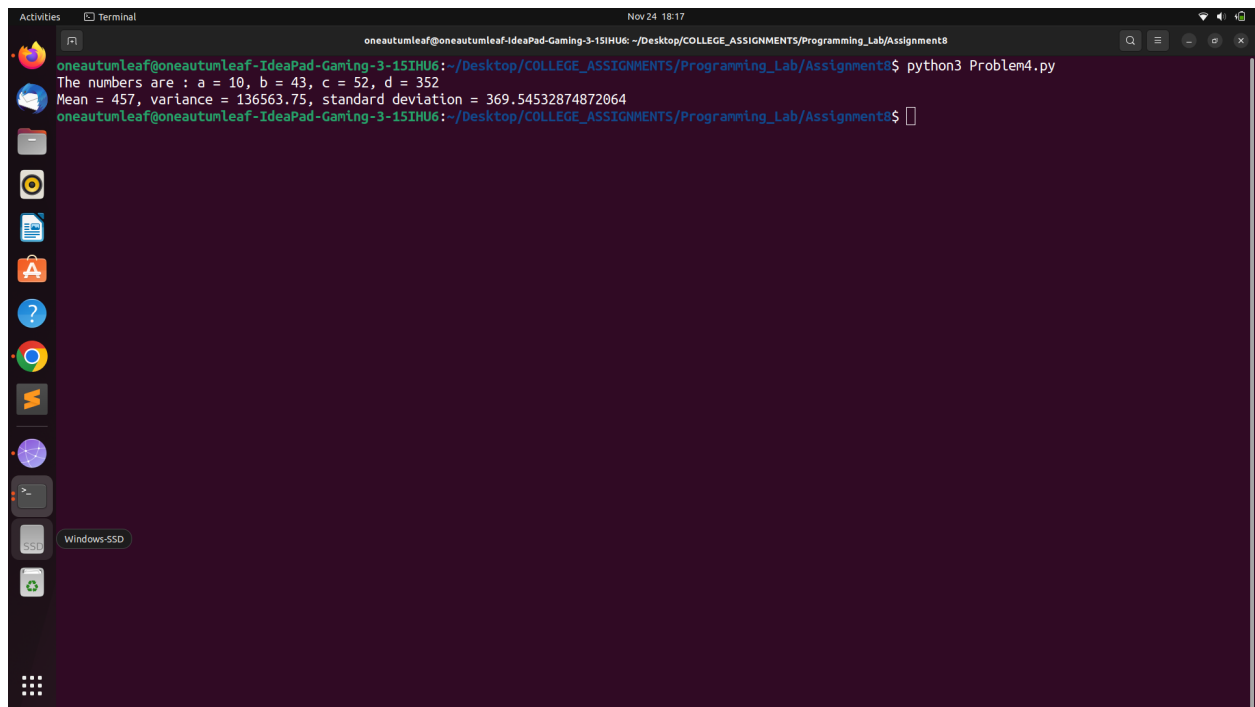
4.. Create a function in python to accept and return multiple arguments.

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 -



The screenshot shows a terminal window titled "Terminal" with the user "oneautumleaf" on the machine "oneautumleaf-IdeaPad-Gaming-3-15IHU6". The current directory is "~/Desktop/COLLEGE_ASSIGNMENTS/Programming_Lab/Assignment8". The user has executed the command `python3 Problem4.py`. The output of the script is displayed as follows:

```
oneautumleaf@oneautumleaf-IdeaPad-Gaming-3-15IHU6:~/Desktop/COLLEGE_ASSIGNMENTS/Programming_Lab/Assignment8$ python3 Problem4.py
The numbers are : a = 10, b = 43, c = 52, d = 352
Mean = 457, variance = 136563.75, standard deviation = 369.54532874872064
oneautumleaf@oneautumleaf-IdeaPad-Gaming-3-15IHU6:~/Desktop/COLLEGE_ASSIGNMENTS/Programming_Lab/Assignment8$
```

The terminal window also shows a sidebar with various application icons and a "Windows-SSD" indicator.