Python Programming - Lab - 6

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Python Programming - 2301CS404

Lab - 6

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1 Tuple

1.0.1 01) WAP to find sum of tuple elements.

[1]:
```
t1 = (1,2,3,4,5)
print(sum(t1))
```

```
15
```

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

[13]:
```
t1 = (1,2,3,4,5,9,12,2.5)
n = int(input("enter n"))
sortedTuple = sorted(t1)
print("min value ",end="=")
for i in range(0,n):
    print(sortedTuple[i] , end=" ")
print("max value ",end="=")
for i in range(len(t1)-1,len(t1)-n-1,-1):
    print(sortedTuple[i] , end=" ")
```

```
min value =1 2 2.5 max value =12 9 5
```

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

[29]:
```
l1 = [(1,2,3,4),(5,6,7,8),(9,10,11,12),(3,3,3,6)]
k = int(input())
for tuple in l1:
    check = False
    count = 0
    for i in tuple:
        if i%k==0:
```

```
            count+=1
    if(count==len(tuple)):
        print(tuple)
```

```
(3, 3, 3, 6)
```

[ ]:
```
def find_tuples_divisible_by_k(tuples_list, K):
    # Filter tuples where all elements are divisible by K
    result = [tup for tup in tuples_list if all(x % K == 0 for x in tup)]
    return result

# Example usage:
tuples_list = [(10, 20, 30), (5, 15, 25), (2, 4, 8), (7, 14, 21)]
K = 5
result = find_tuples_divisible_by_k(tuples_list, K)
print(result)
```

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

[30]:
```
l1 = [1,3,6,5,9,2]
t1 = [(i,i**3) for i in l1]
print(t1)
```

```
[(1, 1), (3, 27), (6, 216), (5, 125), (9, 729), (2, 8)]
```

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

[34]:
```
l1 = [(1,2,3,4),(-5,6,7,8),(9,10,11,12),(-3,3,3,6)]
ans = [tuple for tuple in l1 if(all(x>=0 for x in tuple))]
print(ans)
```

```
[(1, 2, 3, 4), (9, 10, 11, 12)]
```

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

[2]:
```
t1 = (3,4)
l1 = [1,2]
ansList = []
ansList.append(t1)
l2 = list(t1)
l1.append(l2)
ansTuple = tuple(l1)
print(ansList)
print(ansTuple)
```

```
[(3, 4)]
(1, 2, [3, 4])
```

1.0.7 07) WAP to remove list of tuples of length K.

[6]:
```
l1 = [(1,2,3,4,7,8),(-5,6,7,8),(9,10,11,12),(-3,3,3,6)]
k = int(input())
l2 = [tuple for tuple in l1 if len(tuple)!=k]
print(l2)
```

```
[(1, 2, 3, 4, 7, 8)]
```

1.0.8 08) WAP to remove duplicates from tuple.

[7]:
```
t1 = (-3,3,3,6)
ans = tuple(set(t1))
ans
```

[7]:
```
(3, -3, 6)
```

[17]:
```
t1 = (-3,3,3,6,6,5,5,6)
l1 = []
s1 = set()
for i in t1:
    if i not in s1:
        l1.append(i)
    s1.add(i)
print(tuple(l1))
```

```
(-3, 3, 6, 5)
```

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

[10]:
```
t1 = (1,2,3,4,5,6,7)
ans = tuple(t1[i]*t1[i+1] for i in range(0,len(t1)-1))
print(ans)
```

```
(2, 6, 12, 20, 30, 42)
```

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

[14]:
```
t1 = (1,2,3,4,5,6,7)
print(len(t1) == len(set(t1)))
```

```
True
```

[ ]:
```

```