1. Write a Python program to sort a list of tuples using Lambda.

In [1]:

```
l=[('f',315),('i',473),('n',453),('j',288)]
sorted(l,key=lambda x:x[1])
```

Out[1]:

```
[('j', 288), ('f', 315), ('n', 453), ('i', 473)]
```

2. Write a Python program to sort a list of dictionaries using Lambda

In [18]:

```
d=dict([('f',315),('i',473),('n',453),('j',288)])
dict(sorted(d.items(),key=lambda x:x[1]))
```

Out[18]:

```
{'j': 288, 'f': 315, 'n': 453, 'i': 473}
```

3. Write a Python program to find square and cube every number in a given list of integers using Lambda

In [27]:

```
l=[29, 89, 60, 56, 77, 82, 23, 39, 82, 56, 44, 30]
sq=list(map((lambda l:l**2),l))
cb=list(map((lambda l:l**3),l))
print(f'Squares list is : {sq}')
print(f'Cubes list is : {cb}')
```

```
Squares list is : [841, 7921, 3600, 3136, 5929, 6724, 529, 1521, 6724, 3136,
1936, 900]
Cubes list is : [24389, 704969, 216000, 175616, 456533, 551368, 12167, 5931
9, 551368, 175616, 85184, 27000]
```

4. Write a Python program to find if a given string starts with a given character using Lambda

In [30]:

```
s='This is Python class'.split()
list(map(lambda x:x.startswith('T'),s))
```

Out[30]:

```
[True, False, False, False]
```

5. Write a Python program to check whether a given string is number or not using Lambda

In [33]:

```
s='Average marks of Jack Frost is 72'.split()
list(map(lambda x:x.isdecimal(),s))
```

Out[33]:

```
[False, False, False, False, False, False, True]
```

6. Write a Python program to create Fibonacci series using Lambda

In [72]:

```
count=10
l=[0,1]

any(map(lambda _:l.append(sum(l[-2:])),range(2,count)))

l
```

Out[72]:

```
[0, 1, 1, 2, 3, 5, 8, 13, 21, 34]
```

In [245]:

```
count=10

fib_list = [0, 1]

any(map(lambda _: fib_list.append(sum(fib_list[-2:])),range(2, count)))
fib_list
```

Out[245]:

```
[0, 1, 1, 2, 3, 5, 8, 13, 21, 34]
```

7. Write a Python program to find the intersection of two given arrays using Lambda

In [144]:

```
set1={1, 2, 3, 5, 7, 8, 9, 10}
set2={1, 2, 4, 8, 9}
set3=set(list(filter(lambda i:i in set2,set1)))
set3
```

Out[144]:

```
{1, 2, 8, 9}
```

8. Write a Python program to rearrange positive and negative numbers in a given array using Lambda

In [155]:

```
l=[29, -89, 60, -56, -77, 82, -23, 39, -82, 56, -44, 30]
p=list(filter(lambda x:x>0,l))
n=list(filter(lambda x:x<0,l))
print(p,n)
```

```
[29, 60, 82, 39, 56, 30] [-89, -56, -77, -23, -82, -44]
```

9. Write a Python program to count the even, odd numbers in a given array of integers using Lambda

In [162]:

```
l=[29, 89, 60, 56, 77, 82, 23, 39, 82, 56, 44, 30]
even=len(list(filter(lambda x : x%2==0,l)))
odd=len(list(filter(lambda x : x%2!=0,l)))
print('even:',even,'Odd:',odd)
```

```
even: 7 Odd: 5
```

10. Write a Python program to add two given lists using map and lambda

In [166]:

```
l=[29, 89, 60, 56, 77, 82]
l2=[23, 39, 82, 56, 44, 30]
any(map(lambda x:l.append(x),l2))
l
```

Out[166]:

```
[29, 89, 60, 56, 77, 82, 23, 39, 82, 56, 44, 30]
```

11. Write a Python program to find numbers divisible by nineteen or thirteen from a list of numbers using Lambda

In [173]:

```
l=[29, 38, 60, 56, 76, 82, 23, 39, 65, 56, 104, 114]
list(filter(lambda x:x%19==0 or x%13==0,l))
```

Out[173]:

```
[38, 76, 39, 65, 104, 114]
```

10. Python Dictionary to find mirror characters in a string

In [179]:

```
original = 'abcdefghijklmnopqrstuvwxyz'
reverse = 'zyxwvutsrqponmlkjihgfedcba'
d=dict(zip(original,reverse))
s='prashant'
''.join(list(map(lambda x: d[x],s)))
```

Out[179]:

```
'kizhszmg'
```

12. Write a Python program to find palindromes in a given list of strings using Lambda

In [187]:

```
arr , ans = ['cat', 'dog', 'tac', 'god', 'act','listen','silent'] , []
l=list(map(lambda i:[j for j in arr if sorted(i)==sorted(j)],arr))
[ans.append(i) for i in l if i not in ans]
print(ans)
```

```
[['cat', 'tac', 'act'], ['dog', 'god'], ['listen', 'silent']]
```

13. Write a Python program to find all anagrams of a string in a given list of strings using lambda

In [233]:

```
arr = ['dog', 'tac', 'god', 'act','listen','silent']
s='cat'
ans=list(map(lambda i : i if (sorted(i)==sorted(s)) else None ,arr))
ans=[i for i in ans if i is not None]
print(ans)
```

```
['tac', 'act']
```

14. Write a Python program that multiplies each number of a given list with a given number using lambda function. Print the result

In [228]:

```
l=[29, 38, 60, 56, 76, 82, 23, 39, 65, 56, 104, 114]
n=2
list(map(lambda x : x*n,l))
```

Out[228]:

```
[58, 76, 120, 112, 152, 164, 46, 78, 130, 112, 208, 228]
```

15. Write a Python program to calculate the sum of the positive and negative numbers of a given list of numbers using lambda function

In [243]:

```
l=[29, -89, 60, -56, -77, 82, -23, 39, -82, 56, -44, 30]
pos=sum(list(map(lambda x : x if (x>0) else 0,l)))
neg=sum(list(map(lambda x : x if (x<0) else 0,l)))
print('Sum of Positive :',pos,'\nSum of Negative :',neg)
```

```
Sum of Positive : 296
Sum of Negative : -371
```

16. Write a Python program to find the list with maximum and minimum length using lambda

In [8]:

```
l=[['cat', 'tac', 'act','mad'], ['dog', 'god'], ['listen', 'silent','dam']]
list(filter(lambda x: len(x)==min([len(i) for i in l]),l))[0]
```

Out[8]:

```
['dog', 'god']
```

17. Write a Python program to check whether a specified list is sorted or not using lambda

In [17]:

```
arr1 = ['dog', 'tac', 'god', 'act','listen','silent']
arr2 = sorted(arr1)
print((lambda a,b : True if a==b else False)(arr1,arr2))

arr1 = ['act', 'dog', 'god', 'listen', 'silent', 'tac']
arr2 = sorted(arr1)
print((lambda a,b : True if a==b else False)(arr1,arr2))
```

```
False
True
```

18. Write a Python program to remove all elements from a given list present in another list using lambda.

In [22]:

```
l1=[29, 89, 60, 56, 77, 82]
l2=[23, 39, 82, 56, 44, 30]
list(filter(lambda x:x not in l2,l1))
```

Out[22]:

```
[29, 89, 60, 77]
```

19. Write a Python program to convert string element to integer inside a given tuple using lambda

In [24]:

```
l=('29', '38', '60', '56', '76', '82', '23', '39', '65', '56', '104', '114')
tuple(map(lambda x:int(x),l))
```

Out[24]:

```
(29, 38, 60, 56, 76, 82, 23, 39, 65, 56, 104, 114)
```

20. Write a Python program to count the occurrences of the items in a given list using lambda

In [27]:

```
l=['29', '38', '60', '56', '76', '82', '23', '39', '65', '56', '104', '114']
print(dict(zip(l,list(map(lambda x:l.count(x),l)))))
```

```
{'29': 1, '38': 1, '60': 1, '56': 2, '76': 1, '82': 1, '23': 1, '39': 1, '6
5': 1, '104': 1, '114': 1}
```

21. Write a Python program to add three given lists using Python map and lambda

In [58]:

```
a=list('afgaegf')
b=list('tykmyuli')
c=list('asfdq')
list(map(lambda x: a.append(x),b))
list(map(lambda x: a.append(x),c))
print(a)
```

```
['a', 'f', 'g', 'a', 'e', 'g', 'f', 't', 'y', 'k', 'm', 'y', 'u', 'l', 'i',
'a', 's', 'f', 'd', 'q']
```

22. Write a Python program to listify the list of given

strings individually using Python map

In [59]:

```
arr1 = ['dog', 'tac', 'god', 'act','listen','silent']
list(map(lambda x: [i for i in x],arr1))
```

Out[59]:

```
[['d', 'o', 'g'],
 ['t', 'a', 'c'],
 ['g', 'o', 'd'],
 ['a', 'c', 't'],
 ['l', 'i', 's', 't', 'e', 'n'],
 ['s', 'i', 'l', 'e', 'n', 't']]
```

23. Write a Python program to square the elements of a list using map() function

In [60]:

```
l=[29, 89, 60, 56, 77, 82, 23, 39, 82, 56, 44, 30]
sq=list(map((lambda l:l**2),l))
sq
```

Out[60]:

```
[841, 7921, 3600, 3136, 5929, 6724, 529, 1521, 6724, 3136, 1936, 900]
```

24. Write a Python program to add two given lists and find the difference between lists. Use map() function

In [96]:

```
a=list('pythons')
b=list('program')
ans=[]+a
list(map(lambda x: ans.append(x),b))
ans=list(set(ans))
print(ans)
sm=[i for i in a if i in b]
list(map(lambda x: ans.remove(x),sm))
print(ans)
```

```
['t', 's', 'o', 'p', 'm', 'h', 'n', 'g', 'a', 'y', 'r']
['t', 's', 'm', 'h', 'n', 'g', 'a', 'y', 'r']
```

25. Write a Python program to convert a given list of integers and a tuple of integers in a list of strings

In [2]:

```
nums_list = [1,2,3,4]
nums_tuple = (0, 1, 2, 3)
nums_list_str=list(map(str,nums_list))
nums_tuple_str=list(map(str,nums_tuple))
print(nums_list_str,nums_tuple_str)
```

```
['1', '2', '3', '4'] ['0', '1', '2', '3']
```

26. Write a Python program to compute the sum of elements of an given array of integers, use map() function

In [27]:

```
from functools import reduce
l=[29, 89, 60, 56, 77, 82, 23, 39, 82, 56, 44, 30]
sum_a = reduce(lambda x, y:x+y, l)
print(sum_a)
```

```
667
```

27. Write a Python program to count the same pair in two given lists. use map() function

In [42]:

```
nums1 = [1,2,3,4,5,6,7,8]
nums2 = [2,2,3,1,2,6,7,9]
sum(list(map(lambda i,j:i==j,nums1,nums2)))
```

Out[42]:

```
4
```

28. Write a Python program to convert a given list of strings into list of lists using map function

In [50]:

```
l=[29, 89, 60, 56, 77, 82, 23, 39, 82, 56, 44, 30]
list(map(lambda i:[i],l))
```

Out[50]:

```
[[29], [89], [60], [56], [77], [82], [23], [39], [82], [56], [44], [30]]
```

29. Write a Python program to convert a given list of tuples to a list of strings using map function

In [61]:

```
l=[('j', 288), ('f', 315), ('n', 453), ('i', 473)]
print(list(map(lambda i:i[0]+' '+str(i[1]),l)))
l=list(zip([58, 76, 120, 112, 152, 164],[46, 78, 130, 112, 208, 228]))
print(list(map(lambda i:str(i[0])+' '+str(i[1]),l)))
```

```
['j 288', 'f 315', 'n 453', 'i 473']
['58 46', '76 78', '120 130', '112 112', '152 208', '164 228']
```

30. Python program to find the diff. between two lists using filter() function

In [66]:

```
nums1 = [1,2,3,4,5,6,7,8]
nums2 = [2,2,3,1,2,6,7,9]
list(filter(lambda i: i[0]!=i[1],zip(nums1,nums2)))
```

Out[66]:

```
[(1, 2), (4, 1), (5, 2), (8, 9)]
```

31. Python program to remove stop words from string using filter() function

In [68]:

```
s='''A stop sign is a traffic sign designed to notify drivers that they must come
to a complete stop and make sure the intersection is safely clear of vehicles and
pedestrians before continuing past the sign. In many countries, the sign is
a red octagon with the word STOP, in either English or the national language of
that particular country, displayed in white or yellow.'''.split()
' '.join(list(filter(lambda i: i!='stop',s)))
```

Out[68]:

```
'A sign is a traffic sign designed to notify drivers that they must come to
a complete and make sure the intersection is safely clear of vehicles and pe
destrians before continuing past the sign. In many countries, the sign is a
red octagon with the word STOP, in either English or the national language o
f that particular country, displayed in white or yellow.'
```

32. Python program to find common items in two arrays using lambda and filter() function

In [69]:

```
nums1 = [1,2,3,4,5,6,7,8]
nums2 = [2,2,3,1,2,6,7,9]
list(filter(lambda i: i[0]==i[1],zip(nums1,nums2)))
```

Out[69]:

```
[(2, 2), (3, 3), (6, 6), (7, 7)]
```

33. Python program to filter odd numbers from the list using filter() function

In [70]:

```
l=[29, 89, 60, 56, 77, 82, 23, 39, 82, 56, 44, 30]
list(filter(lambda i: i%2!=0,l))
```

Out[70]:

```
[29, 89, 77, 23, 39]
```

34. Python program to filter even numbers from the list using filter() function

In [71]:

```
l=[29, 89, 60, 56, 77, 82, 23, 39, 82, 56, 44, 30]
list(filter(lambda i: i%2==0,l))
```

Out[71]:

```
[60, 56, 82, 82, 56, 44, 30]
```

35. Python program that filters non-vowels from the list using filter() function

In [75]:

```
original = list('abcdefghijklmnopqrstuvwxyz')
print(list(filter(lambda i: i not in 'aeiou',original)))
```

```
['b', 'c', 'd', 'f', 'g', 'h', 'j', 'k', 'l', 'm', 'n', 'p', 'q', 'r', 's',
't', 'v', 'w', 'x', 'y', 'z']
```

36. Check if binary representations of two numbers are an anagram

In [81]:

```
a=bin(9)
b=bin(12)
print((lambda i,j:sorted(i)==sorted(j))(a,b))
```

```
True
```

lambda magic to find prime numbers

In [99]:

```
nums = range(2, 100)
for i in range(2, 10):
    nums = list(filter(lambda x: x == i or x % i, nums))
print (nums)
```

```
[2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71,
73, 79, 83, 89, 97]
```