Functional Programming

1. Write a Python program to create Fibonacci series upto n using Lambda.

2. Write a Python program to find the numbers of a given string and store them in a list, display the numbers which are bigger than the length of the list in sorted form. Use lambda function to solve the problem.

Input :
Original string: SOC 23 CTech 5 DSBS8 NWC 56 CINtel 20 5
Output
Numbers in sorted form:
20 23 56

3. Write a Python program to sort a given list of strings(numbers) numerically using lambda.

4. Write a Python program to calculate the average value of the numbers in a given tuple of tuples using lambda.
5. Write a Python program to find the nested lists elements, which are present in another list using lambda.

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

7. Write a Python program to convert all the characters in uppercase and lowercase and eliminate duplicate letters from a given sequence. Use map() function.

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

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10. Filter the array, and return a new array with only the values equal to or above 18 (consider filter function)

11. Write a Python program to filter only vowels from given sequence.

Input
sequence = ['g', 'e', 'e', 'j', 'k', 's', 'p', 'r']

Output :

e

e

12. Write a Python program to calculate sum of numbers from the list and maximum element from the list (use reduce function)

13. Write a python program to calculate factorial of given number (use reduce function)

```
import functoolsdef mult(x,y):
    print("x=",x," y=",y)
    return x*y

fact=functools.reduce(mult, range(1, 4))
print ('Factorial of 3: ', fact)
```

```
x= 1  y= 2
x= 2  y= 3
Factorial of 3:  6
```