

18CSC207J-Advance Programming Practice - Structured Programming – Lab Programs

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Class :-CSE F1

Set 1 :

a. Write the python program to add two lists of input [1,2,3,4,5,6] and [4,6,12,3,2,1] using map and lambda and then perform multiplication for the resultant value off add with the input list [4,2,8,3,2,1]

Sol.

```
#question 1
l1=[1,2,3,4,5,6]
l2=[4,6,12,3,2,1]
result = list(map(lambda x, y: x + y, l1, l2))
print("Sum of list 1 and 2 :",list(result))
l3=[4,2,8,3,2,1]
result1 = map(lambda x, y: x * y,result,l3)
print("After multiplication with l3 :",list(result1))
```

Sum of list 1 and 2 : [5, 8, 15, 7, 7, 7]

After multiplication with l3 : [20, 16, 120, 21, 14, 7]

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b. Get the List of strings as input and list of strings individually as character using map () function using python program.

Sol.

```
# question 2
l1=['apple','ball','cat','dog']
p = list(map(list, l1))
print(p)
```

```
[['a', 'p', 'p', 'l', 'e'], ['b', 'a', 'l', 'l'], ['c', 'a', 't'], ['d', 'o', 'g']]
```

c. Write the python program the calculate cube of a number by using def () and lambda () function.

Sol.

```
#question 3
def cube(n):
    return n*n*n
n=int(input())
cube(n)
```

3

27

```
cube= lambda n : n*n*n
n=int(input())
cube(n)
```

3

27

d. Write the python program to calculate Fahrenheit and Celsius using map () function and print the temperature in Fahrenheit and Celsius.

Sol.

```
#question 4
def Celsius(F):
    C = ((5.0/9.0)*(F - 32))
    return C
f = [98.5, 101,102,203,104]
t = (map(Celsius, f))
c = list(t)
print(c)
```

[36.94444444444444, 38.333333333333336, 38.88888888888889, 95.0, 40.0]

e. Write the python program to calculate the sequence of the first 11 Fibonacci numbers and filter out first the odd and then the even elements from the sequence of the first 11 Fibonacci numbers.

Sol.

```
#question 5
l=[0]
f1 = 0
f2 = 1
for x in range(1, 11):
    l.append(f2)
    next = f1 + f2
    f1 = f2
    f2 = next
print(l)
odd = filter(lambda a: True if a%2!=0 else False , l)
print("Odd :", list(odd))
even = filter(lambda a: True if a%2==0 else False , l)
print("Even :", list(even))
```

[0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55]

Odd : [1, 1, 3, 5, 13, 21, 55]

Even : [0, 2, 8, 34]