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Custom map

In this problem, we need to implement an improvement over the Python *map* generator. The map generator takes input of a function (f) and an iterable (input) and returns an iterable (output) where $output_i$ is $f(input_i)$.

In this problem, you have to implement a custom map generator, where instead of one function, you need to map a series of function over an input. So, to the custom map generator, the inputs will be a list of function and the list of integers over which all the functions are to be mapped one by one.

Take for example, we have functions given as *funcs = [lambda x: x*x, lambda x: x+x]*, with size $n = 2$. The first function is the "square" function and second function is the "double" function. Let the given input be $arr = [1, 2, 3, 4]$ with size $m = 4$, then the output should be $[2, 8, 18, 32]$, calculated as $output_i = y_i + y_i$, $y_i = arr_i * arr_i$.

Function Description

Complete the function *cmap* in the editor below. The function must be a generator and should return an iterable.

cmap has the following parameter(s):

funcs[funcs[0],...funcs[n-1]]: an array of functions

arr[arr[0],...arr[m-1]]: an array of integers

Constraints

- $1 \le n \le 10$
- $1 \le m \le 10^4$
- $funcs_i$ is a callable function (where $0 \le i < n$)
- $0 \le arr_i \le 10^5$(where $0 \le i < m$)

Input Format For Custom Testing

The first line contains an integer, *n*, denoting the number of elements in *funcs*.

Each line *i* of the *n* subsequent lines (where $0 \le i < n$) contains a string describing $funcs_i$, which is a lambda expression defining a function.

The next line contains an integer, *m*, denoting the number of elements in *arr*.

Each line *i* of the *n* subsequent lines (where $0 \le i < m$) contains an integer describing arr_i.

Sample Case 0

Sample Input For Custom Testing

```
2
lambda x: x*x
lambda x: x+x
4
1
2
3
4
```

Sample Output

```
2
8
18
32
```

Explanation

We have two functions which are to be applied sequentially. The first one is the square function and the second is the double function. After running the input from the first function we get *[1, 4, 9, 16]* and after running this through the second function we get [2, 8, 18, 32].

Sample Case 1

Sample Input For Custom Testing

```
2
lambda x: int(x/x)
lambda x: x+x
5
5
4
3
2
1
```

HCL STS Python Training Module Assessment

01h : 05m
to test end

Vivek Kumar

Sample Output

```
2
2
2
2
2
```

Explanation

The first function divides the input by itself, so we will always get 1 as the answer from the first function. The second function doubles the input, so for any input we will get 2 as the answer.

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YOUR ANSWER

We recommend you take a quick tour of our editor before you proceed. The timer will pause up to 90 seconds for the tour. Start tour

For help on how to read input and write output in Python 3, click here.

View Code Diff | Python 3

```
#!/bin/python3⋯
#
# Complete the 'cmap' function below.
#
# The function is expected to return an INTEGER_ARRAY.
# The function accepts following parameters:
#  1. STRING_ARRAY funcs
#  2. INTEGER_ARRAY arr
#
def cmap(funcs, arr):
    outpu1=list(map(funcs[0], arr))
    output2 = list(map(funcs[1],outpu1))
    yield output2






if __name__ == '__main__':⋯
```

Line: 11 Col: 1

Test against custom input

Run Code | Submit code & Continue

(You can submit any number of times)

Download sample test cases *The input/output files have Unix line endings. Do not use Notepad to edit them on windows.*

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