DP-S004 (E004)

Solved Challenges 2/3

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Stair Climbing - Slippery stairs

ID:10535 **Solved By 483 Users**

There are **N** stairs to be climbed in a building. A robot can take only **S** different leaps each containing certain distinct steps which are passed as the input. But **T** stairs are slippery and hence the robot will slip to the bottom stair if it lands on a slippery stair. The slippery stair numbers are passed as the input. The program must print the number of ways **C** of steps the robot can take to climb N stairs.

Boundary Condition(s):
1 <= N <= 50
1 <= S <= 10
1 <= T <= N

Input Format:
The first line contains N, S and T separated by a space.
The second line contains S integer values separated by a space.
The third line contains T integer values separated by a space.

Output Format:
The first line contains the value of C.

Example Input/Output 1:
Input:
5 2 1
2 3
2

Output:
2

Explanation:
There are 5 steps. The robot can take **2** or **3** steps at a time.
So the possible ways are
3 2
1 2 2 (as the robot will slip to step 1 when it lands on step 2 which is slippery)

Example Input/Output 2:
Input:
6 2 1
2 3
2

Output:
3

Explanation:
The possible ways are
1 2 3 (as the robot will slip to step 1 when it lands on step 2 which is slippery)
1 3 2 (as the robot will slip to step 1 when it lands on step 2 which is slippery)
3 3

Max Execution Time Limit: 400 millisecs

Ambiance

Python3 (3.x)

Reset

```
_ = list(map(int, input().strip().split()))
n = _[0]
leaps_count = _[1]
slippery_count = _[2]

leaps = list(map(int, input().strip().split()))
slippery = list(map(int, input().strip().split()))

ways = [0]*(n+1)
ways[0] = 1
lastNonslippery = 0
for step in range(1,n+1):
    for leap in leaps:
        if(step>= leap):
            ways[step] += ways[step - leap]

    if(step in slippery):
        lastNonslippery = step-1
        while((lastNonslippery in slippery) and lastNonslippery>0
            lastNonslippery -=1

        if(lastNonslippery>0):
            ways[lastNonslippery]+=ways[step]

        ways[step] = 0

print(ways[n])

```

Code did not pass the execution

TestCase ID: 57232

Input:

```
5 2 1
2 3
2
```

Expected Output:

2

Your Program Output:

0

Save Run

Run with a custom test case (Input/Output)