Day 0: Weighted Mean

Objective

In the previous challenge, we calculated a mean. In this challenge, we practice calculating a weighted mean. Check out the Tutorial tab for learning materials and an instructional video!

Task

Given an array, X, of N integers and an array, W, representing the respective weights of X's elements, calculate and print weighted mean of X's elements. Your answer should be rounded to a scale of 1 decimal place (i.e., 12.3 format).

Input Format

The first line contains an integer, N, denoting the number of elements in arrays X and W.
The second line contains N space-separated integers describing the respective elements of array X.
The third line contains N space-separated integers describing the respective elements of array W.

Constraints

- $5 \le N \le 50$
- $0 < x_i \le 100$, where x_i is the ith element of array X.
- $0 < w_i \le 100$, where w_i is the ith element of array W.

Output Format

Print the weighted mean on a new line. Your answer should be rounded to a scale of 1 decimal place (i.e., 12.3 format).

Sample Input

```
5
10 40 30 50 20
1 2 3 4 5
```

Sample Output

```
32.0
```

Explanation

We use the following formula to calculate the weighted mean:

$$m_w = \frac{\sum_{i=0}^{N-1} (x_i \times w_i)}{\sum_{i=0}^{N-1} w_i} \Rightarrow m_w = \frac{10 \times 1 + 40 \times 2 + 30 \times 3 + 50 \times 4 + 20 \times 5}{1 + 2 + 3 + 4 + 5} = \frac{480}{15} = 32.0$$

And then print our result to a scale of 1 decimal place (32.0) on a new line.

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```python
# Enter your code here. Read input from STDIN. Print output to STDOUT
n = int(input().strip())
records = list(map(int, input().split(' ')))
weights = list(map(int, input().split(' ')))


numerator = 0;
weightsSum=0
for i in range(0,n):
    numerator = numerator +(records[i]*weights[i])
    weightsSum = weightsSum+weights[i]

weightedMean = numerator/weightsSum

print(round(weightedMean,1))
```

```
5
10 11 12 13 14 15
1 2 3 4 5
12.7
```

In [ ]: