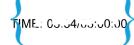
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# Repairing Mobiles (100 Marks)

Reliance started a new mobile manufacturing venture named Reliance Mobiles in India last year. They started this company with the newly launched Reliance Jio venture in collaboration so that they can capture the whole Indian market of mobile and service providers at once. They started selling their mobiles at a very starting prize of Rs. 1000 only. Today their demand has grown so much that advance booking started online for the products and month-long waiting is there for the availability of phones.

Reliance also opened various service center for mobile servicing in various major cities all over the country. Aman, just purchased their service center dealership and opened up a new showroom in central Delhi, Connaught Place area. In the service center, **engineers are numbered from 1 to N inclusive.** Customers coming to the service center are so much that the owner needs to implement a token system as there is a long queue every day in his showroom of the customers.

The Service Center opens each morning and operates in the following way throughout the day. Whenever any customer arrives in the center, the attendants check whether there is any engineer available for repair or not. If there is no engineer available, then the customer waits in the queue until some engineer is free. If an engineer is available, or as soon as one becomes available, the customer goes to the available engineer.

If there are more than one engineer available, the customer will go to the engineer with the smallest number. If more customers come while some customers are waiting, they all line up in a queue at the entrance, in the order in which they arrived. Then, when an engineer will be available, the first customer in the queue (i.e., the one that arrived the earliest) went to the engineer for repairing.

The cost of repairing is the weight of the mobile in grams multiplied by the specific fees of an engineer. The cost does not depend on how long is the queue or how many customers came to the service center. The service center operator knows that today there will be **M** mobiles coming to repair and he knows the order of the customer coming for mobile repairing and customer going after repairing. Help him calculate how much money he is going to earn today.

### **Input Format**

- Input 1: It will be an integer which tells the total number of engineers N
- Input 2: It will be an integer which tells the total number of mobiles that come in the service center for repairing M
- Input 3: It will be a string where each **N** integer describe the fees of an engineer separated by comma. The  $s^{th}$  of these value contains a single integer  $R_s$ , the fees of an engineer s per gram of mobile phone.
- Input 4: It will be a string where each **M** integer describe the weights of the mobile phones separated by comma. The phones are numbered from 1 to **M** inclusive in no particular order. The  $\mathbf{k}^{th}$  of these **M** values contains a single integer  $\mathbf{W}_{\mathbf{k}}$ , the weight of mobile  $\mathbf{k}$  in grams. Input 5: It will be an integer array where:

First line tells the total count of mobiles which comes in service center for repairing and mobiles which are taken back by the customer after repairing. This is also the total number of rows of array which is **2\*M**.

Each positive integer i from next line indicates that mobile number i arrives at the service center. A negative integer -i indicates that mobile number i is repaired and taken back by the customer. No mobile will go from the service center unrepaired, and all mobiles from 1 to M inclusive will appear exactly twice in this sequence, once when it comes to the service center and once after repairing. Moreover, no mobile will go from the service center before it is repaired (i.e., **no customer will leave while waiting on the queue)** 

## **Constraints**

1 ≤ **N** ≤ 100

1 ≤ **M** ≤ 2000

 $1 \le \mathbf{R}_{s} \le 100$ 

 $1 \le \mathbf{W_k} \le 10,000$ 

# **Output Format**

It will be an integer which tells the total amount of money earned by the owner of the service center.

# Sample TestCase 1

# Input

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Output

5300

#### **Explanation**

Mobile number 3 goes to engineer number 1 and pays 300 \* 2 = 600 rupees.

Mobile number 2 goes to engineer number 2 and pays 100 \* 3 = 300 rupees.

Mobile number 1 goes to engineer number 1 (which was released by mobile number 3) and pays 200 \* 2 = 400 rupees.

Mobile number 4 goes to engineer number 3 (the last remaining) and pays 800 \* 5 = 4,000 rupees.

Total amount earned = 5300

Sample Problem with Solution (https://techchallenge.in.capgemini.com/techchallenge/platform-faq)

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**COMPILE & RUN** 

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