Problem A
Tour de BINUS

BINUS University has N rooms to be used as lecture classes. These N rooms are numbered from 1 to N and arranged in a straight line, where the 1^{st} room is the left-most room, and the N^{th} room is the right-most room.

On one fine afternoon, Ayu and Budi, two BINUS' alumni, visit their lovely alma mater and walk around the campus. At that particular time, there might be a lecture in each class where A_i students attend the lecture in the i^{th} room.

Ayu starts her walk from the x^{th} room and walk in one direction to the first or last room (depends on the direction). While she walks, she counts the total number of students in all the rooms she passed. For example, if she starts from the 5^{th} room and going left, then she will count the total number of students in the 5^{th}, 4^{th}, 3^{rd}, 2^{nd}, and 1^{st} room. If she is going right, then she will count the total number of students from the 5^{th} room up to the N^{th} room. Budi also does a similar thing as Ayu, however, instead of counting the total number of students, Budi only counts the number of rooms which are not being used (empty rooms) at that time, i.e. when $A_i = 0$.

Given array A (representing the number of students in each room), Ayu's starting point (x_1), Ayu's direction, Budi's starting point (x_2), and Budi's direction, compute the total number of students in Ayu's walk and the total number of empty rooms in Budi's walk.

Input

Input begins with an integer N ($1 \leq N \leq 100$) representing the number of rooms. The second line contains N integers: A_i ($0 \leq A_i \leq 60$) representing the number of students in the i^{th} room. If $A_i = 0$, then it means the room is not being used (empty). The third line contains an integer x_1 ($1 \leq x_1 \leq N$) and a string d_1, representing Ayu's walk from the x_1^{th} room in d_1's direction. The fourth line contains an integer x_2 ($1 \leq x_2 \leq N$) and a string d_2, representing Budi's walk from the x_2^{th} room in d_2's direction. It is guaranteed that d_1 and d_2 will be either "`left`" or "`right`" (without quotes).

Output

Output in a line two integers (separated by a single space) representing the total number of students in Ayu's walk and the total number of empty rooms in Budi's walk, respectively.

Sample Input #1

```
7
10 0 43 21 0 15 0
4 right
5 left
```

Sample Output #1

```
36 2
```

Explanation for the sample input/output #1

Ayu starts from the 4^{th} room and going right, so she will pass the 4^{th}, 5^{th}, 6^{th}, and 7^{th} room. The number of students in each of these rooms are 21, 0, 15, 0, with a total of $21 + 0 + 15 + 0 = 36$.

Budi starts from the 5^{th} room and going left, so he will pass the 5^{th}, 4^{th}, 3^{rd}, 2^{nd}, and 1^{st} room. The rooms which are empty among these are the 5^{th} and 2^{nd} room (2 rooms).

Sample Input #2

```
5
60 0 20 60 60
1 left
1 right
```

Sample Output #2

```
60 1
```

Sample Input #3

```
10
0 0 0 45 15 0 20 60 30 0
3 left
6 left
```

Sample Output #3

```
0 4
```