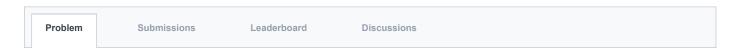


# **Bon Appétit**





Anna and Brian order n items at a restaurant, but Anna declines to eat any of the  $k^{th}$  item (where  $0 \le k < n$ ) due to an allergy. When the check comes, they decide to split the cost of all the items they shared; however, Brian may have forgotten that they didn't split the  $k^{th}$  item and accidentally charged Anna for it.

You are given n, k, the cost of each of the n items, and the total amount of money that Brian charged Anna for her portion of the bill. If the bill is fairly split, print Bon Appetit; otherwise, print the amount of money that Brian must refund to Anna.

#### **Input Format**

The first line contains two space-separated integers denoting the respective values of n (the number of items ordered) and k (the 0-based index of the item that Anna did not eat).

The second line contains n space-separated integers where each integer i denotes the cost, c[i], of item i (where  $0 \le i < n$ ).

The third line contains an integer,  $b_{charged}$ , denoting the amount of money that Brian charged Anna for her share of the bill.

#### Constraints

- $2 \le n \le 10^5$
- $0 \le k < n$
- $0 \le c[i] \le 10^4$
- $0 \le b \le \sum c[i]$

# **Output Format**

If Brian did not overcharge Anna, print Bon Appetit on a new line; otherwise, print the difference (i.e.,  $b_{charged} - b_{actual}$ ) that Brian must refund to Anna (it is guaranteed that this will always be an integer).

# Sample Input 0

```
4 1
3 10 2 9
12
```

#### Sample Output 0

5

## Explanation 0

Anna didn't eat item c[1]=10, but she shared the rest of the items with Brian. The total cost of the shared items is 3+2+9=14 and, split in half, the cost per person is  $b_{actual}=7$ . Brian charged her  $b_{charged}=12$  for her portion of the bill, which is more than the 7 dollars worth of food that she actually shared with him. Thus, we print the amount Anna was overcharged,  $b_{charged}-b_{actual}=12-7=5$ , on a new line.

## Sample Input 1

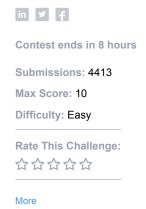
```
4 1
3 10 2 9
7
```

#### Sample Output 1

Bon Appetit

#### **Explanation 1**

Anna didn't eat item c[1] = 10, but she shared the rest of the items with Brian. The total cost of the shared items is 3 + 2 + 9 = 14 and, split in half, the cost per person is  $b_{actual} = 7$ . Because this matches the amount,  $b_{charged} = 7$ , that Brian charged Anna for her portion of the bill, we print Bon Appetit on a new line.





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