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Bon Appétit

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Problem

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Anna and Brian order n items at a restaurant, but Anna declines to eat any of the k^{th} item (where $0 \leq k < n$) 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 $0 \leq i < n$).

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

Constraints

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

Output Format

If Brian did not overcharge Anna, print `Bon Appetit` on a new line; otherwise, print the difference (i.e., $b_{\text{charged}} - b_{\text{actual}}$) 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 $b_{\text{actual}} = 7$. Brian charged her $b_{\text{charged}} = 12$ 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, $b_{\text{charged}} - b_{\text{actual}} = 12 - 7 = 5$, 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 $b_{\text{actual}} = 7$. Because this matches the amount, $b_{\text{charged}} = 7$, that Brian charged Anna for her portion of the bill, we print `Bon Appetit` on a new line.

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Submissions: 27820

Max Score: 10

Difficulty: Easy

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☆☆☆☆☆

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C++



```
1 #include <cmath>
2 #include <cstdio>
3 #include <vector>
4 #include <iostream>
5 #include <algorithm>
6 using namespace std;
7
8
9 int main() {
10     int count, kth, bill, sumwithoutk = 0, totalsum = 0;
11
12     cin >> count >> kth;
13
14     for (int i = 0; i < count; i++) {
15         int tmp;
16         cin >> tmp;
17         if (i != kth) {
18             sumwithoutk += tmp;
19         }
20         totalsum += tmp;
21     }
22
23     cin >> bill;
24
25     totalsum /= 2;
26     sumwithoutk /= 2;
27
28     if (bill == sumwithoutk) {
29         cout << "Bon Appetit" << "\n";
30     } else {
31         cout << abs(bill - sumwithoutk) << "\n";
32     }
33     /* Enter your code here. Read input from STDIN. Print output to STDOUT */
34     return 0;
35 }
36
```

Line: 1 Col: 1

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