Q. The task is to find the minimum sum of Products of two arrays of the same size, given that k modifications are allowed on the first array. In each modification, one array element of the first array can either be increased or decreased by 2.  
  
Note- the product sum is Summation (A[i]\*B[i]) for all i from 1 to n where n is the size of both arrays

**Input Format:**

1. First line of the input contains n and k delimited by whitespace
2. Second line contains the Array A (modifiable array) with its values delimited by spaces
3. Third line contains the Array B (non-modifiable array) with its values delimited by spaces

**Output Format:**  
  
Output the minimum sum of products of the two arrays

**Constraints:**

1. **1 ≤ N ≤ 10^5**
2. **0 ≤ |A[i]|, |B[i]| ≤ 10^5**
3. **0 ≤ K ≤ 10^9**

**Sample Input and Output**

|  |  |  |
| --- | --- | --- |
| **SNo.** | **Input** | **Output** |
| 1 | 3 5 1 2 -3 -2 3 -5 | -31 |
| 2 | 5 3 2 3 4 5 4 3 4 2 3 2 | 25 |

**Explanation for sample 1:**  
  
Here total numbers are 3 and total modifications allowed are 5. So we modified A[2], which is -3 and increased it by 10 (as 5 modifications are allowed). Now final sum will be  
(1 \* -2) + (2 \* 3) + (7 \* -5)  
-2 + 6 - 35  
-31  
  
-31 is our final answer.  
  
**Explanation for sample 2:**  
  
Here total numbers are 5 and total modifications allowed are 3. So we modified A[1], which is 3 and decreased it by 6 (as 3 modifications are allowed).  
Now final sum will be  
(2 \* 3) + (-3 \* 4) + (4 \* 2) + (5 \* 3) + (4 \* 2)  
6 - 12 + 8 + 15 + 8  
25