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Sherlock and Cost 🔖

by **darkshadows**

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Array A contains the elements, $A_1, A_2 ... A_N$. And array B contains the elements, $B_1, B_2 ... B_N$. There is a relationship between A_i and B_i, $\forall\ 1 \le i \le N$, i.e., any element A_i lies between 1 and B_i.

Let the cost S of an array A be defined as:

$$S = \sum_{i=2}^{N} |A_i - A_{i-1}|$$

You have to print the largest possible value of S.

Input Format

The first line contains, T, the number of test cases. Each test case contains an integer, N, in first line. The second line of each test case contains N integers that denote the array B.

Constraints

$1 \le T \le 20$
$1 \le N \le 10^5$
$1 \le B_i \le 100$

Output Format

For each test case, print the required answer in one line.

Sample Input

```
1
5
10 1 10 1 10
```

Sample Output

```
36
```

Explanation

The maximum value occurs when $A_1 = A_3 = A_5 = 10$ and $A_2 = A_4 = 1$.

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C++14

```cpp
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      /* Enter your code here. Read input from STDIN. Print output to STDOUT */
11      return 0;
12  }
13
```

Line: 1 Col: 1

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