Educational DP Contest AtCoder A - Frog 1

Time limit: 1.0s **Memory limit:** 1G

There are N stones, numbered $1, 2, \ldots, N$. For each i $(1 \leq i \leq N)$, the height of Stone i is h_i.

There is a frog who is initially on Stone 1. He will repeat the following action some number of times to reach Stone N:

- If the frog is currently on Stone i, jump to Stone $i+1$ or Stone $i+2$. Here, a cost of $|h_i - h_j|$ is incurred, where j is the stone to land on.

Find the minimum possible total cost incurred before the frog reaches Stone N.

Constraints

- All values in input are integers.
- $2 \leq N \leq 10^5$
- $1 \leq h_i \leq 10^4$

Input Specification

The first line of input will contain an integer N.

The second line of input will contain N spaced integers, h_i, the height of stone i.

Output Specification

Output a single integer, the minimum possible total cost incurred.

Sample Input 1

```
4
10 30 40 20
```

Sample Output 1

```
30
```

Sample Input 2

```
2
10 10
```

Sample Output 2

```
0
```

Sample Input 3

```
6
30 10 60 10 60 50
```

Sample Output 3

```
40
```

Sample Explanations

For the first sample, we can follow path $1 \to 2 \to 4$, the total cost incurred would be $|10 - 30| + |30 - 20| = 30$.

For the second sample, we can follow the path $1 \to 2$, with the total cost incurred being $|10 - 10| = 0$.

In the last sample, we follow the path $1 \to 3 \to 5 \to 6$, the total cost incurred would be $|30 - 60| + |60 - 60| + |60 - 50| = 40$.