

Problem 28703 - Double It Multilingual

☆

English ▾

Time Limit	Memory Limit	Submissions	Accepted	Solved	Ratio
1 second	1024 MB	1825	497	426	30.982%

Description

You are given an array of length  $N$  consisting of positive integers  $A_1, \dots, A_N$ . You can perform the following operation as many times as you want:

- Choose any number from the array and multiply it by 2.

Find the smallest possible difference between the maximum and minimum values of  $A_1, \dots, A_N$  after these operations.

Input

The first line contains the length of the array  $N$ . ( $1 \leq N \leq 200\,000$ )  
The second line contains  $N$  positive integers  $A_1, A_2, \dots, A_N$ . ( $1 \leq A_i \leq 10^9$ )

Output

Print the smallest possible difference between the maximum and minimum values of  $A_1, \dots, A_N$  after the operations.

Sample Input 1 Copy

```
6
31 41 51 92 65 3
```

Sample Output 1 Copy

```
40
```

By doubling 31 to 62, 41 to 82, 51 to 102, and 3 by five times to get 96, the difference between the maximum value 102 and minimum value 62 in array  $A$  becomes the smallest, which is 40.

Source

Contest (/category/45) > solved.ac (/category/859) > solved.ac Grand Arena #2 (/category/detail/3707) C번

- 문제를 검수한 사람: ai4youej (/user/ai4youej), bnb2011 (/user/bnb2011), chansol (/user/chansol), cologne (/user/cologne), cozyyg (/user/cozyyg), gs18115 (/user/g18115), havana723 (/user/havana723), jh05013 (/user/jh05013), kipa00 (/user/kipa00), moonrabbit2 (/user/moonrabbit2), pichulia (/user/pichulia), shiftpsh (/user/shiftpsh)
- 문제를 만든 사람: cologne (/user/cologne), solvedac (/user/solvedac)

알고리즘 분류

보기

Memo