Closest numbers
1 second, 32 MB

You are given a list of N integers: $X_1, X_2, \ldots, X_N$. You want to find two integers in the list with the minimum difference, i.e., you want to find indices a and b such that a is not equal to b and $|X_a - X_b|$ is minimum.

Input
The first line contain an integers N. ($2 <= N <= 100{,}000$) Then the next N lines contains the list of integers. More specifically, line $1 + i$ contains X_i, for $1 <= i <= N$. Each integer is between 0 and 1,000,000,000.

Output
Your program should output the minimum difference $|X_a - X_b|$ satisfying the conditions in the task statement.

Example 1

Input	Output
7 10 25 4 23 17 20 100	2

Example 2

Input	Output
3 1 5 5	0