

C: Energy Converter

Standard I/O | Time Limit: 1.0s | Memory Limit: 512MB

The spaceship propulsion system consists of N energy cells represented by non-negative integers. To activate warp drive, all cells must be equalized to the exact same value using the minimum total operations.

You can select any cell x and apply one of two operations:

- 1. Overcharge: Replace x with $2 \times x + 1$.
- 2. Discharge: Replace x with $\lfloor x / 2 \rfloor$ (integer division).

Determine the minimum total number of operations across all cells to make every value in the array identical.

Input

The first line contains an integer N ($2 \leq N \leq 50,000$). The second line contains N non-negative integers (each $\leq 2 \times 10^5$).

Output

Print a single integer: the minimum total operations required.

Standard Input	Standard Output
4 6 7 12 15	6