Chocolate Eating

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Alice and Bob play the following game: they start with several chocolate bars, consisting of n_1 , n_2 , ... , n_k pieces. The players alternate on turns, and Alice starts. In each turn, the player may either split one of the bars into two (i.e., replace a bar consisting of $n > 1$ pieces with two bars consisting of a and b pieces, for any positive integers a and b such that $n = a + b$), or eat a bar of chocolate that consist of only one piece (if such a piece is available). The game ends when there is no chocolate left. Obviously, the goal of the game is to eat as much chocolate as possible.

Input Specification

The input consists of several instances; input of each instance consists of single line (whose length is at most 1000000 characters). This line contains a nonempty list of integers n_1 , n_2 , ... , n_k ($1 \leq n_i \leq 10^9$), separated by single spaces. The numbers represent the sizes of the chocolate bars.

Output Specification

For each input instance, output a single line containing a single integer n - the number of pieces of chocolate Alice can eat assuming that both Alice and Bob play the game using the optimal strategy.

Sample Input

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3 2 1
```

Output for Sample Input

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3
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Comment: For example, the game may proceed as follows: Alice eats one piece of chocolate. Bob splits the bar that consists of two pieces. Alice eats one of the created pieces, and Bob the other one. Alice splits the last remaining piece of chocolate to bars with 1 and 2 pieces. Bob eats one piece. Alice splits the last chocolate bar, and each of the players eats one of the created pieces.