Утегенов Батырхан Елембетұлы [ADS-Lab-05]: Submit a solution

Info   Summary   Submissions   Standings   Submit clar   Clars   Settings
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18:17:44 / **RUNNING**

| A | B | C | D | E |

Submit a solution for D-Experiment with Mixtures

Time limit:	2 s
Real time limit:	5 s
Memory limit:	256M

Problem D: Experiment with Mixtures

Mark is making an experiment with mixtures of different densities. For his experiment he wants all of the mixtures to have a density $\geqslant m$.

He uses the following formula to obtain a combined mixture: $d_{new} = d_{least} + 2 \cdot d_{second\,least}$, where d_{new} is the density of the new mixture, d_{least} is the smallest density among all mixtures and $d_{second\,least}$ is the second smallest density among all mixtures.

Mark repeats the mixing until he gets all the mixtures with the density $\geqslant m$.

You are given the densities of mixtures. How many times Mark should mix his mixtures to get the densities of all mixtures $\geqslant m$?

Input format

The first line consists of integers n and m ($1 \leqslant n \leqslant 10^6, 0 \leqslant m \leqslant 10^9$), the number of mixtures and the minimum required density correspondingly.

The next line contains n space-separated integers d_i ($0 \leqslant d_i \leqslant 10^6$) describing the densities of mixtures.

Output format

Print the number of operations that are needed to make all the densities $\geqslant m$. If it is impossible, print -1.

Examples

Input

```
3 10
1 1 1
```

Output

```
-1
```

Input

```
6 7
1 2 3 9 10 12
```

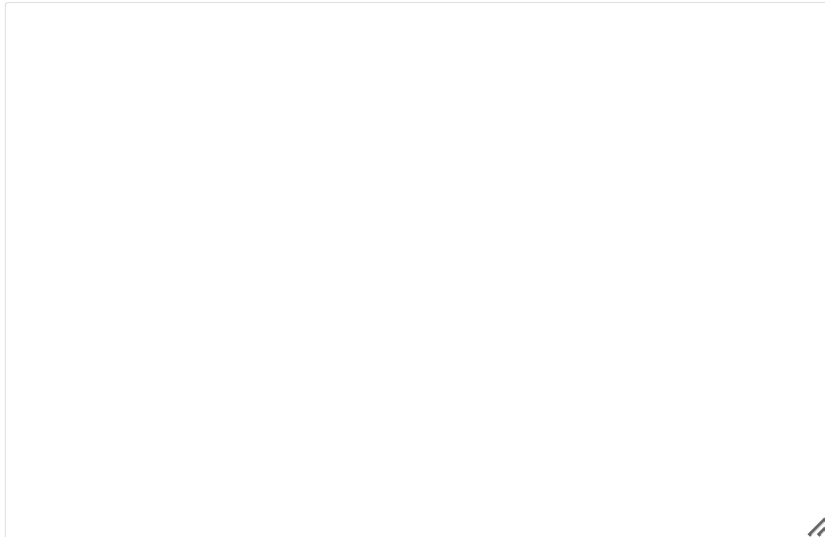Output

```
2
```

Submit a solution

Language: [g++ - GNU C++ 11.4.0 ⌄]

```



```

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Send!   Send!

Send: Send:

Previous submissions of this problem

Run ID	Time	Size	Problem	Language	Result	Failed test	View source	View report
1709	1212:03:05	2023	D	g++	OK	N/A	View	View

| A | B | C | D | E |

ejudge 3.10.3+ (GIT 6da71ff82) (2023-08-02 06:59:26).

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