LKP '18 Contest 1 P1 - World Trade Foundation

Time limit: 1.0s **Memory limit:** 16M

The World Trade Foundation has N denominations of coins, $a_1, a_2, \ldots, a_N$ where a_i is a multiple of a_{i-1} for $2 \leq i \leq N$. The WTF wishes to perform a transaction that costs exactly K Quunar (the local currency). Because they value efficiency over all else, determine the minimum number of coins they need to get exactly K Quunar, or print `-1` if this is not possible.

Constraints

$1 \leq N \leq 10$
$1 \leq a_i \leq 10^9$
$1 \leq K \leq 10^9$
It is guaranteed that a_i is a multiple of a_{i-1}.

Input Specification

On the first line, there are two space-separated integers, N K.
The next line contains N space-separated integers, a_i, the values of the coins (in Quunar).

Output Specification

On one line, output the minimum number of coins needed to make a sum of exactly K Quunar or print `-1` if this is not possible.

Sample Input 1

```
3 10
1 2 4
```

Sample Output 1

```
3
```

Sample Input 2

```
5 263
1 5 10 50 100
```

Sample Output 2

```
7
```

Sample Input 3

```
3 7
2 6 12
```

Sample Output 3

```
-1
```