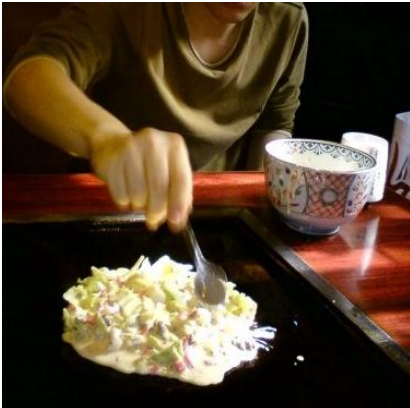


# D

# Making Okonomiyaki



Okonomiyaki is a Japanese “pancake”, or a small “pizza”, because it is not sweet. Various ingredients, like octopus, shrimp, pork, yam or kimchi, are added to the flour-egg mixture, and then this mixture is cooked on a hot iron table.

Now, a careless guy called Kengood wants to make an Okonomiyaki. He got all the ingredients and the recipe in hand. While he is going to prepare the amount of flour the recipe stated, he realized he doesn’t have the measuring cup! He only got **four** cups that the volume is known. Can he get the amount of flour he wants using these four cups? What is the **minimum steps** Kengood needs to do to get the amount of flour he wants?

In order to calculate the number of steps Kengood needs, we define “**one step**” as either:

- He can empty **one cup**
- He can fill **one cup** full of flour from the bag of flour
- He can pour the flour in **one cup to another cup**. He has to fill up the receiving cup **until either the receiving cup is full or the source cup is empty**.

At the start, all four cups are empty. And you can ignore the amount of flour in the bag of flour (assuming there is an unlimited amount of flour supply).

## Input

Each case contains 5 integers,  $a, b, c, d, T$ . ( $0 < a, b, c, d, T < 25$ ).  $a, b, c$  and  $d$  means the volume of those 4 cups.  $T$  means the target volume of flour we want.

Input ends with EOF.

## Output

For each case, output the minimum steps to achieve  $T$ . or -1 if there is no way to achieve  $T$ .

## Sample Input

## Output for Sample Input

```
1 2 3 5 4
1 2 3 10 4
11 13 17 19 20
```

```
2
4
-1
```

### Explanation for testcase 1:

(step 1) Fill cup4 -> (step 2) pour cup 4 to cup 1 -> cup 4 has 4 units of flour