The Juggernaut

Input file:	**standard input**
Output file:	**standard output**
Time limit:	1 second
Memory limit:	256 megabytes
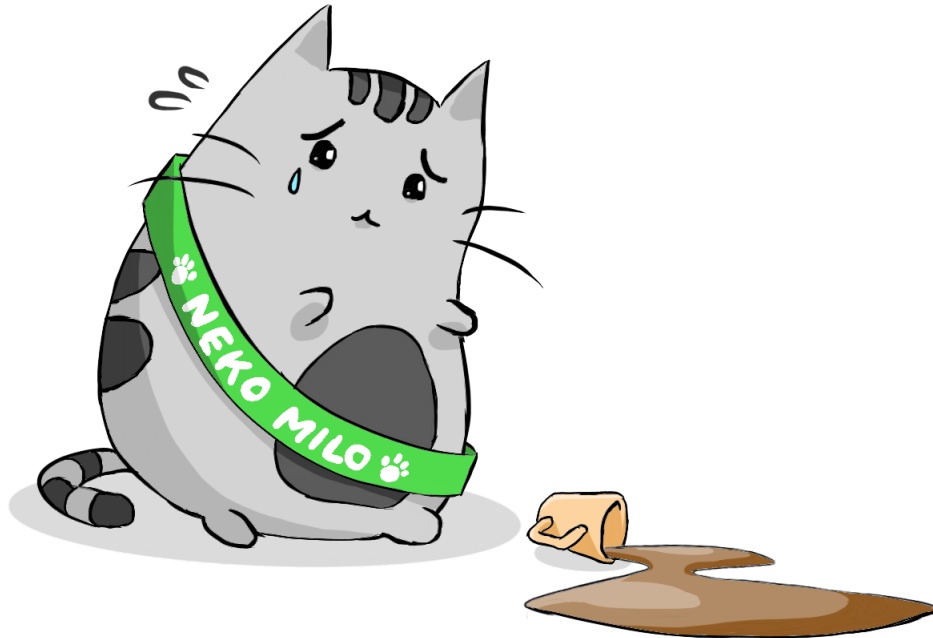
Artwork by Chow Khai Shian

Meows have a very peculiar need to drink Milo. Meows are very particular about the amount of Milo they consume and deviations from their prescribed amount can cause all sorts of health issues. Unfortunately, meow-kind cannot use measuring cylinders because they can't read.

In order to keep meow society running, all the Milo is served by Juggernaut Meow. Juggernaut Meow is a meow that owns a lot of jugs. Each jug has a different capacity and Juggernaut Meow uses them to obtain precise amounts of Milo without the need for reading.

Juggernaut Meow can perform the following operations:

1. Fill a jug to full.

2. Pour the contents of one jug completely into another.

3. Pour the contents of one jug into another jug until the other jug is full.

4. Empty a jug.

Using these 4 operations, Juggernaut Meow measures out Milo for all the meows and everymeow is happy. Or they were... until one night while he was drinking Milo, a thief breaks in to Juggernaut Meow's house and steals all but 2 of the jugs. With only 2 jugs of capacity A and B respectively, Juggernaut Meow is no longer sure if he can fulfill the requests of the Q meows waiting in line. Each meow requests a certain amount r_i of Milo to be served by Juggernaut Meow where i denotes the place they are in the line.

The meows must consume their desired amount consecutively. This means Juggernaut Meow cannot measure out A units of Milo, let the meow consume it, then measure out another A units to fulfill a request for $2A$ as the meow may have complications while the 2nd serving is being measured. He can

however have A units in one jug and A units in another jug to fulfill an order for $2A$ as the meow never needs to stop drinking to wait for him to measure.

He is forced to take out a loan to pay all the fines he will be receiving for being unable to deliver. Help Juggernaut Meow determine how many requests he will be forced to reject.

Input

The first line of input contains two integers, $A, B(1 \leq A, B \leq 10^6)$ — the capacity of Juggernaut Meows 2 leftover jugs.

The second line of input contains a single integer, $Q(1 \leq Q \leq 10^6)$ — the number of meows waiting in line.

The third line consists of Q integers $r_1, r_2, ..., r_Q(1 \leq r_i \leq 10^6)$ — the amounts that the meows are requesting

Output

Output a single integer, the number of requests Juggernaut Meow will be forced to reject.

Examples

standard input	standard output
5 3 5 1 2 3 4 5	0
6 3 5 1 2 3 4 5	4

Note

In the first case, Juggernaut Meow is able to satisfy all the requestss using a combination of the four operations.

In the second case, Juggernaut Meow is only able to satisfy the request for 3. He therefore has to reject the other 4 requests