USA Computing Olympiad

OVERVIEW TRAINING CONTESTS HISTORY STAFF RESOURCES

USACO 2021 January Contest, Bronze
Problem 2. Even More Odd Photos

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Contest has ended.

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English (en)

Farmer John is yet again trying to take a photograph of his N cows ($2 \le N \le 1000$).

Each cow has an integer "breed ID" number in the range $1 \dots 100$. Farmer John has a very peculiar idea in mind for his photo: he wants to partition all the cows into disjoint groups (in other words, place each cow in exactly one group) and then line up the groups so the sum of the breed IDs of the cows in the first group is even, the sum of the IDs in the second group is odd, and so on, alternating between even and odd.

What is the maximum possible number of groups Farmer John can form?

INPUT FORMAT (input arrives from the terminal / stdin):

The first line of input contains N. The next line contains N space-separated integers giving the breed IDs of the N cows.

OUTPUT FORMAT (print output to the terminal / stdout):

The maximum possible number of groups in Farmer John's photo. It can be shown that at least one feasible grouping exists.

SAMPLE INPUT:

```
7
1 3 5 7 9 11 13
```

SAMPLE OUTPUT:

```
3
```

In this example, one way to form the maximum number of three groups is as follows. Place 1 and 3 in the first group, 5, 7, and 9 in the second group, and 11 and 13 in the third group.

SAMPLE INPUT:

```
7
11 2 17 13 1 15 3
```

SAMPLE OUTPUT:

```
5
```

In this example, one way to form the maximum number of five groups is as follows. Place 2 in the first group, 11 in the second group, 13 and 1 in the third group, 15 in the fourth group, and 17 and 3 in the fifth group.

Problem credits: Nick Wu

Contest has ended. No further submissions allowed.