

# Winning Hand of Cards



You're in a party where the host has arranged a game of cards. You are given a number of cards and try to create as many combinations from those cards as possible that result in a *winning hand*. A winning hand is the one where the product of the numbers on the cards modulo a given value, the *modulo divisor* is equal to another given value, the *target value*.

Complete the function `winningHands` to return an integer denoting the number of winning hands.

## Input Format

Input contains two lines. The first line contains three space-separated integers  $n$ ,  $m$  and  $x$  denoting the number of cards, the modulo divisor and the target value respectively. The second line contains  $n$  space-separated integers. The  $i^{\text{th}}$  integer denotes the number written on card  $i$ .

## Constraints

- $1 \leq n \leq 30$
- $1 \leq m \leq 10^6$
- $0 \leq x \leq m - 1$
- $1 \leq \text{number on card} \leq 10^7$

## Output Format

Print the number of winning hands from the given cards.

## Sample Input 0

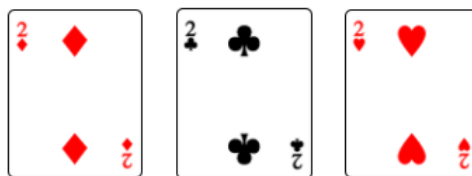
```
3 3 2
2 2 2
```

## Sample Output 0

```
4
```

## Explanation 0

Chosen hand = { 1, 2, 3 }



$$(2 * 2 * 2) \% 3 = 2$$

Consider the following hands (given by their indices): {1}, {2}, {3}, {1, 2}, {1, 3}, {2, 3}, {1, 2, 3}.

- $2 \bmod 3 = 2$
- $2 \bmod 3 = 2$
- $2 \bmod 3 = 2$
- $(2 \times 2) \bmod 3 = 1$

- $(2 \times 2) \bmod 3 = 1$
- $(2 \times 2) \bmod 3 = 1$
- $(2 \times 2 \times 2) \bmod 3 = 2$

Four hands have product modulo  $3 = 2$ .