F - Loud Cicada

Editorial (/contests/abc423/tasks/abc423_f/editorial)   ● / 🇬🇧

Time Limit: 2 sec / Memory Limit: 1024 MiB

Score : 525 points

Problem Statement

AtCoder Island has N species of cicadas. Cicadas of species i $(1 \le i \le N)$ have mass outbreaks only in years that are multiples of A_i.

Among the Y years from year 1 to year Y, find how many years have mass outbreaks of exactly M species of cicadas.

Constraints

- $1 \le M \le N \le 20$
- $1 \le Y \le 10^{18}$
- $1 \le A_i \le 10^{18}$ $(1 \le i \le N)$
- All input values are integers.

Input

The input is given from Standard Input in the following format:

```
N  M  Y
A_1  ⋯  A_N
```

Output

Output the answer.

Sample Input 1 Copy

```
3 2 16
4 2 3
```

Sample Output 1 Copy

```
4
```

From years 1 to 16, each species of cicada has mass outbreaks in the following years:

- Species 1 cicadas have mass outbreaks in years $4, 8, 12, 16$.
- Species 2 cicadas have mass outbreaks in years $2, 4, 6, 8, 10, 12, 14, 16$.
- Species 3 cicadas have mass outbreaks in years $3, 6, 9, 12, 15$.

From years 1 to 16, exactly two species of cicadas have mass outbreaks four times in years $4, 6, 8, 16$.

Sample Input 2 Copy

```
2 1 122333444422333
1429 73651
```

Sample Output 2 Copy

```
87266392324
```

The answer may not fit in a 32-bit integer.

Sample Input 3 Copy

```
20 3 832725971730072237
19639596380058 49098990950145 32732660633430 114564312217005 68738587330203 458257248868
```

Sample Output 3 Copy

24231   Copy

Input values may not fit in a 32-bit integer.

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