

1. Confusing Sum

You're given a string **S** of length **N**. Find out the absolute difference of **SumX** and **SumY**.

SumX is defined as the sum of **ascii values** of **uppercase vowels** and **ascii values** of **lowercase consonants**.

SumY is defined as the sum of **ascii values** of **lowercase vowels** and **ascii values** of **uppercase consonants**.

Input Format:

First line of input contains an integer **N** denoting the length of the string.

Second line of input contains the string **S**.

Output Format:

Print the absolute difference of **SumX** and **SumY**.

Constraints:

$1 \leq N \leq 10^3$ *S contains alphabets only (a - z, A - Z)*

Sample I/O:

Input 1:

4

AbaB

Output 1:

0

Input 2:

5

AbaBZ

Output 2:

90

Input 3:

6

AbaBZy

Output 3:

31

2. Just Divide

You are given an array **A** of positive integers of size **N** and an integer **K**.

Extract all the elements that are multiples of **K** from the given array and print the quotients.

Input Format:

First line of input contains an integer **N** denoting the size of the array.

Second line of input contains **N** space separated integers.

Third line of input contains an integer **K**.

Output Format:

Print the output according to the decription given.

Constraints:

$1 \leq N \leq 10^5$ $1 \leq A[i] \leq 10^3$ $1 \leq K \leq 10^3$

Sample I/O:

Input 1:

5
2 5 6 7 10
2

Output 1:

1 3 5

Input 2:

3
3 4 7
1

Output 2:

3 4 7

Input 3:

6
19 47 2 16 144 9
4

Output 3:

4 36

3. Primes on Rims

You are given an **N x N** matrix. Find out the sum of all the prime numbers present on the edges of the matrix.

Input Format:

1. First line of input contains **N**.
2. Next **N** lines contain **N** integers for each line.

Output Format:

Print the sum of all the primes on edges of the matrix.

Constraints:

- $1 \leq N \leq 25$
- $1 \leq \text{Matrix Element} \leq 1000$

Sample I/O:

Input 1:

4
4 14 19 9
16 32 11 3
17 23 7 16
5 29 36 41

Output 1:

114

Input 2:

5

69 65 66 56 32

6 59 25 70 41

70 27 5 88 100

40 83 50 40 37

97 86 97 91 7

Output 2:

279

Explanation:

Input 1:

Edges

4	14	19	9
16	32	11	3
17	23	7	16
5	29	36	41

Primes on Edges

4	14	19	9
16	32	11	3
17	23	7	16
5	29	36	41

$$19+3+17+5+29+41 = 114$$

Input 2:

Edges

69	65	66	56	32
6	59	25	70	41
70	27	5	88	100
40	83	50	40	37
97	86	97	91	7

Primes on Edges

69	65	66	56	32
6	59	25	70	41
70	27	5	88	100
40	83	50	40	37
97	86	97	91	7

$$41+37+97+97+7 = 279$$