



STUDENT REPORT

DETAILS

Name

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EXPERIMENT

Title

SUM OF NUMBERS AT PRIME FACTORS

Description

Prime factors of a positive integer are the prime numbers that divide that integer exactly.

Given an array arr of n integers and a positive integer num.

Let's suppose prime factorization of num is: $p^a \times q^b \times r^c \times \dots \times z^f$, where p,q,r...z are prime numbers.

Sum of numbers in array arr at indices of prime factors of number num is: $a \times arr[p] + b \times arr[q] + c \times arr[r] + \dots + f \times arr[z]$.

You are given an array arr of size n and a positive integer num. You are required to calculate the sum of numbers in arr as mentioned above, and print the same.

Note:

- If arr is empty, print -1.
- If prime factor of num not found as indices, print 0.

Input Format:

The input consists of three lines:

- The first line contains an integer, i.e. n.
- The second line contains an array arr of length of n.
- The third line contains an integer num

The input will be read from the STDIN by the candidates.

Output Format:

Print the sum that was mentioned in the problem statement.

Example:

Input:

6

11 21 32 45 1 23

6

Output:

77

Explanation:

$6=2^1 \times 3^1$

`sum=1*arr[2]+1*arr[3]=1*32+1*45=77`

Source Code:

```
def prime_factors(n):
    i=2
    factors=[]
    while i*i<=n:
        if n%i:
            i+=1
        else:
            n//=i
            factors.append(i)
    if n>1:
        factors.append(n)
    return factors
n=int(input())
arr=list(map(int,input().split()))
num=int(input())
if n==0:
    print(-1)
    exit()
factors=prime_factors(num)
total_sum=0
for factor in factors:
    if factor
```

RESULT

5 / 5 Test Cases Passed | 100 %