Logo

STUDENT REPORT

DETAILS

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Roll Number

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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: $p^a \times q^b \times r^c \times .... \times z^f$,where p,q,r...z are prime numbers.

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

```
import math
def prime_factors(n):
    factors = []
    while n % 2 == 0:
        factors.append(2)
        n//=2
    for i in range(3,int(math.sqrt(n))+1,2):
        while n%i==0:
            factors.append(i)
            n//=i
    if n>2:
        factors.append(n)
    return list(set(factors))

n=int(input())
arr=list(map(int,input().split()))
num= int(input())

if n==0:
    print(-1)
else:
    primes=prime_factors(num)
    result_sum=0
    valid_indices=False

    for prime in primes:
        if prime
```

RESULT

0 / 5 Test Cases Passed | 0 %