



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=2¹ x 3¹

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

Source Code:

```
def sum_of_prime_factors(n):
    def prime_factors(num):
        i=2
        factors=[]
        while num%i==0:
            factors.append(i)
            num//=i
        for i in range(3,int(num**0.5)+1,2):
            while num %i ==0:
                factors.append(i)
                num//=i
        if num>2:
            factors.append(num)
        return factors
    prime_factors (n)
    return
sum(prime_factors_list)
number=60
print(f"sum of prime factors {number} is:{sum_of_prime_factors(number)}")
```

RESULT

0 / 5 Test Cases Passed | 0 %