

# Divisor Summation

Given a natural number  $n$  ( $1 \leq n \leq 500000$ ), please output the summation of all its proper divisors.

*Definition:* A proper divisor of a natural number is the divisor that is strictly less than the number.

e.g. number 20 has 5 proper divisors: 1, 2, 4, 5, 10, and the divisor summation is:  $1 + 2 + 4 + 5 + 10 = 22$ .

## Input

An integer stating the number of test cases (equal to about 200000), and that many lines follow, each containing one integer between 1 and 500000 inclusive.

## Output

One integer each line: the divisor summation of the integer given respectively.

## Example

Sample Input:

```
3
2
10
20
```

Sample Output:

```
1
8
22
```

**Warning: large Input/Output data, be careful with certain languages**