DIVSUM2 - Divisor Summation (Hard)

#fast-prime-factorization (/problems/tag/fast-prime-factorization)

Given a natural number n (1 <= n <= 1e16), 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 500), and that many lines follow, each containing one integer between 1 and 1e16 inclusive.

Output

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

Example

```
Input:
3
2
10
20

Output:
1
8
22
```

warning: a naive algorithm may not run in time.

Submit solution! (/submit/DIVSUM2/)

show comments

Leave a Comment

Publish

Notes:
1. Don't post any source code here.
2. Please be careful, leave short comments only. Don't spam here.
3. For more discussion (hints, ideas, solutions) please visit our forum (/forum).
4. Authors of the problems are allowed to delete the post and use html code here (e.g. to provide some useful links).

Submit solution! (/submit/DIVSUM2/)

Added by:	Bin Jin (/users/crazyb0y)
Date:	2007-08-29
Time limit:	18.17s
Source limit:	50000B
Memory limit:	1536MB
Cluster:	Cube (Intel G860) (/clusters/)
Languages:	All except: CPP
Resource:	own problem

Vote requirements

- ✔ be spoj user for at least 5 days
- ✖ solved 9 from 15 needed problems

✖ solve this problem

Own tags

# # # # # # # #

Tag name Add