**PRACTICE**      **COMPETE**      **DISCUSS**  |    COMMUNITY      HELP      ABOUT

Home » Compete » April Cook-Off 2016  » Odd Divisors

# Odd Divisors ✓

ALL SUBMISSIONS      MY SUBMISSIONS

Problem code: ODDDIV

Tweet          Like      Share   4 people like this. Be the first of your friends.

SUCCESSFUL SUBMISSIONS   ⊞

**All submissions for this problem are available.**

**Read problems statements in <u>Mandarin Chinese</u>, <u>Russian</u> and <u>Vietnamese</u> as well.**

Little Egor likes to play with positive integers and their divisors. Bigger the number to play with, more the fun! The boy asked you to come up with an algorithm, that could play the following game:

Let's define $f(n)$ as the sum of all odd divisors of $n$. I.e. $f(10) = 1 + 5 = 6$ and $f(21) = 1 + 3 + 7 + 21 = 32$. The game is to calculate $f(l) + f(l + 1) + ... + f(r - 1) + f(r)$ for the given integers $l$ and $r$.

Have fun! But be careful, the integers might be quite big.

## Input

The first line of the input contains one integer $T$ denoting the number of test cases.
The only line of the test case description contains two positive integers $l$ and $r$.

## Output

For each test case, output the required sum on a separate line.

## Constraints

- $1 \le T \le 10$
- $1 \le l \le r \le 10^5$

## Example

**Input:**
2
1 10
42 42

**Output:**
45
32

## Explanation

In the first example case, $f(1) + f(2) + ... + f(10) = 1 + 1 + 4 + 1 + 6 + 4 + 8 + 1 + 13 + 6 = 45$
In the second example case, $f(42) = 32$.

| | |
|---|---|
| Author: | kostya_by |
| Tester: | pavel1996 |
| Editorial: | http://discuss.codechef.com/problems/ODDDIV |
| Tags: | cook69 divisors kostya_by simple sum |
| Date Added: | 26-03-2016 |
| Time Limit: | 1 sec |
| Source Limit: | 50000 Bytes |
| Languages: | ADA, ASM, BASH, BF, C, C99 strict, CAML, CLOJ, CLPS, CPP 4.3.2, CPP 4.9.2, CPP14, CS2, D, ERL, FORT, FS, GO, HASK, ICK, ICON, JAVA, JS, LISP clisp, LISP sbcl, LUA, NEM, NICE, NODEJS, PAS fpc, PAS gpc, PERL, PERL6, PHP, PIKE, PRLG, PYPY, PYTH, PYTH 3.1.2, RUBY, SCALA, SCM chicken, SCM guile, SCM qobi, ST, TCL, TEXT, WSPC |

## Comments ▸

About CodeChef | About Directi | CEO's Corner | C-Programming | Programming Languages | Contact Us

**Directi**

The time now is: 04:32:35 PM
Your IP : 14.139.196.3

### CodeChef - A Platform for Aspiring Programmers

CodeChef was created as a platform to help programmers make it big in the world of algorithms, **computer programming** and **programming contests**. At CodeChef we work hard to revive the geek in you by hosting a **programming contest** at the start of the month and another smaller programming challenge in the middle of the month. We also aim to have training sessions and discussions related to **algorithms, binary search**, technicalities like **array size** and the likes. Apart from providing a platform for **programming competitions**, CodeChef also has various algorithm tutorials and forum discussions to help those who are new to the world of **computer programming**.

### Practice Section - A Place to hone your 'Computer Programming Skills'

Try your hand at one of our many practice problems and submit your solution in a language of your choice. Our **programming contest** judge accepts solutions in over 35+ programming languages. Preparing for coding contests were never this much fun! Receive points, and move up through the CodeChef ranks. Use our practice section to better prepare yourself for the multiple **programming challenges** that take place through-out the month on CodeChef.

### Compete - Monthly Programming Contests and Cook-offs

Here is where you can show off your **computer programming** skills. Take part in our 10 day long monthly **coding contest** and the shorter format Cook-off **coding contest**. Put yourself up for recognition and win great prizes. Our **programming contests** have prizes worth up to INR 20,000 (for Indian Community), $700 (for Global Community) and lots more CodeChef goodies up for grabs.

| **Programming Tools** | **Practice Problems** | **Initiatives** |
|---|---|---|
| Online IDE | Easy | Go for Gold |
| Upcoming Coding Contests | Medium | CodeChef for Schools |
| Contest Hosting | Hard | Campus Chapters |
| Problem Setting | Challenge | |
| CodeChef Tutorials | Peer | |
| CodeChef Wiki | School | |
| | FAQ's | |