

SPOJ Problem Set (classical)

3871. GCD Extreme

Problem code: GCDEX

Given the value of N, you will have to find the value of G. The meaning of G is given in the following code

```
G=0;
for(k=i;k<N;k++)
for(j=i+1;j<=N;j++)
{
G+=gcd(k,j);
}
/*Here gcd() is a function that finds the greatest common divisor of the two input numbers*/
```

Input

The input file contains at most 20000 lines of inputs. Each line contains an integer N ($1 < N < 1000001$). The meaning of N is given in the problem statement. Input is terminated by a line containing a single zero.

Output

For each line of input produce one line of output. This line contains the value of G for the corresponding N. The value of G will fit in a 64-bit signed integer.

Example

Input :

```
10
100
200000
0
```

Output :

```
67
13015
143295493160
```

Time limit has been changed. Some AC solutions get TLE

Added by: Phenomenal
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Time limit: 3s
Source limit:50000B
Languages: All
Resource: ACM World Final Warm up 1 - 2008