**Farey Sequence**

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| **Time Limit:** 1000MS |  | **Memory Limit:** 65536K |
|  |  |  |

**Description**

The Farey Sequence Fn for any integer n with n >= 2 is the set of irreducible rational numbers a/b with 0 < a < b <= n and gcd(a,b) = 1 arranged in increasing order. The first few are   
F2 = {1/2}   
F3 = {1/3, 1/2, 2/3}   
F4 = {1/4, 1/3, 1/2, 2/3, 3/4}   
F5 = {1/5, 1/4, 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5}   
  
You task is to calculate the number of terms in the Farey sequence Fn.

**Input**

There are several test cases. Each test case has only one line, which contains a positive integer n (2 <= n <= 106). There are no blank lines between cases. A line with a single 0 terminates the input.

**Output**

For each test case, you should output one line, which contains N(n) ---- the number of terms in the Farey sequence Fn.

**Sample Input**

2

3

4

5

0

**Sample Output**

1

3

5

9

**Source**

[POJ Contest](http://poj.org/searchproblem?field=source&key=POJ+Contest),Author:Mathematica@ZSU