Problem 4—Crazy Eight Divisors

Professor Plum's favorite number is eight. The eight divisors of 24 are 1, 2, 3, 4, 6, 8, 12 and 24.

The ten numbers not exceeding 100 having exactly eight divisors are 24, 30, 40, 42, 54, 56, 66, 70, 78 and 88.

Let f(n) be the count of numbers not exceeding n with exactly eight divisors.

Professor Plum has hand-calculated f(100) = 10 and f(1000) = 180, but wants you to write a program for bigger values of n up to 2,000,000.

Input Format

The input consists of a single line containing a non-negative integer that is ≤ 2,000,000.

Output Format

The output consists of a single line formatted as shown below for the input n = 1000 and f(1000) = 180. Notice the period at the end of the output line.

Input Sample

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1000
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Output Sample

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The count of numbers not exceeding 1000 with exactly eight divisors is 180.
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