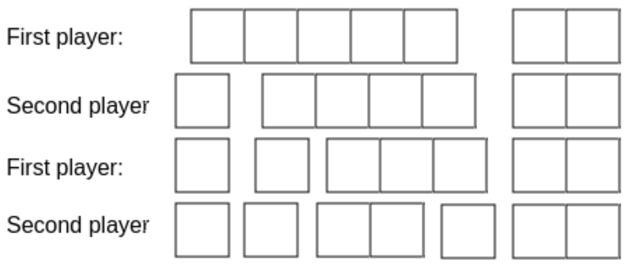
Game of Strips

At Elwyn's university, visiting classes is mandatory and he is not allowed to skip any of them. Luckily for him, his lecturer, Professor Tibor von Minerale does not mind if students are not paying full attention in his class. They take full advantage of this by playing games with each other instead of studying.

Elwyn's favourite game is played by two players. Initially, there is a paper strip of size $1 \times A$ on the table which contains $A \geq 3$ square-shaped cells in a single row. The players take turns in choosing a paper strip from the table which has at least 3 cells, and tear it into two paper strips along an edge between two cells. The game ends when the next player is not able to make a valid move, and the player who made the last move wins.

However, Elwyn quickly figured out that this game does not make much sense, as the same player (the first or the second, depending on A) will always win, irrespective of how they play. So he made an improvement: the players are not allowed to tear a paper strip into two equal parts. Other than that, they are free to choose the dividing edge. Specifically, it is not allowed to tear a strip of size 1×2 into smaller pieces. For example, let $A = 7$. A possible sequence of moves is shown in the following figure:



Following the last move of the second player, there is no valid move for the first player to make. Thus, the second player is the winner of this game. Note that after the second move, the first player is not allowed to tear the strip of size 4 into two strips of size 2 each and win the game.

There is a reason why Elwyn likes this game so much: he's already figured out that one of the two players always has a winning strategy: they can force a win no matter what moves the other player makes. In fact, he knows very well that for $A = 7$, the second player can force a win irrespective of how the first player plays. But sometimes it is worth playing first, for example, for $A = 6$, it can be proved that the first player has a winning strategy.

Today Elwyn is even more bored than usual at the lecture, so he decided to make the game a bit more interesting: initially, there will be two strips of paper with sizes $1 \times A$ and $1 \times B$ on the table (otherwise, the rules are unchanged).

He looks at his exercise book and finds that the maximum size of the strips he can produce is N. Now he wonders: how many (ordered) pairs (A, B) exist such that $3 \leq A, B \leq N$, and when playing the game on two strips of sizes A and B, the second player has a winning strategy. Hopefully you've payed more attention in your classes than Elwyn did, and can answer this question for him.

Input

The input is a single line containing the integer N ($3 \leq N \leq 250\,000$), the maximum size of the two paper strips.

Output

Print a single line containing an integer: the number of (A, B) pairs for which the second player can win.

Examples

input	output
3	1
6	6

Explanation

In the first sample case, the only possible pair of strip sizes is $(A, B) = (3, 3)$. In this case, the second player has a winning strategy, so the answer is 1.

In the second sample case, there are $4 \cdot 4 = 16$ possible (A, B) pairs. Out of these, the second player has a winning strategy in the following 6 cases: $(3, 3), (3, 6), (4, 4), (5, 5), (6, 3), (6, 6)$.