Project Euler #53: Combinatoric selections

This problem is a programming version of Problem 53 from projecteuler.net

There are exactly ten ways of selecting three from five, 12345:

$$123, 124, 125, 134, 135, 145, 234, 235, 245, \text{ and } 345$$

In combinatorics, we use the notation, ${}^5C_3 = 10$

In general,

${}^nC_r = \frac{n!}{r! \times (n-r)!}$, where $r \leq n, n! = n \times n-1 \times n-2 \times \cdots 3 \times 2 \times 1$ and $0! = 1$

It is not until $n = 23$, that a value exceeds one-million:

$${}^{23}C_{10} = 1144066$$

How many, not necessarily distinct, values of ${}^nC_r$, for $1 \leq n \leq N$, are greater than K?

Input Format
Input contains two integers N and K.

Output Format
Print the answer corresponding to the test case.

Constraints
$2 \leq N \leq 1000$
$1 \leq K \leq 10^{18}$

Sample Input

```
23 1000000
```

Sample Output

```
4
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