6601 Teaching Hazard

Teaching students is fun but it can often be embarrassing, which I experienced a few days ago. I was taking CSE3021 (Mathematical Analysis for Computer Science) class in my university and in the very first class I was teaching some very basic things. To be specific I was trying to teach students how to find trailing zeroes of $n!$ (factorial n) in base b. And of course many of you know that multiplicity of a prime factor p in $n!$ can be found using the formula

$$\left\lfloor \frac{n}{p} \right\rfloor + \left\lfloor \frac{n}{p^2} \right\rfloor + \left\lfloor \frac{n}{p^3} \right\rfloor + \dots \quad \text{to inf}$$

This formula can also be used cleverly to find number of trailing zeroes in $n!$.

After teaching this formula I showed them how to find number of trailing zeroes in 200! in decimal number system and with an evil smile asked them to find out number of trailing zeroes in 100! in hexadecimal (16-based) number system. I knew that the correct answer is 24 and to my utter surprise I got a correct reply from a student within minutes and so I congratulated him. But a minute later when I checked his script I found that he actually calculated number of trailing zeroes in 100! in decimal (not Hexadecimal) number system and coincidentally that both answers (Trailing zeroes in hexadecimal and decimal number system) were 24. So I was a bit embarrassed and now you have to help me find out why those two answers were same? Given a number n, you will have to find how many pair of bases (b_1, b_2) are there for which $n!$ (Factorial n) has exactly p trailing zeroes in both base b_1 and base b_2. Here p is a positive integer not less than x.

Input

Input file contains 1000 lines of inputs. Each line contains two integers n ($1 \le n \le 100000$) and x ($2 \le x \le 2500$). Input is terminated by a line containing two zeroes.

Output

For each line of input produce one line of output. This line contains an integer which denotes number of base pairs (b_1, b_2) so that $n!$ has exactly p trailing zeroes in both bases where p is not less than x. You can assume that inputs will be such that none of the output numbers will exceed $5 * 10^{18}$.

Sample Input

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6 2
9 3
0 0
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Sample Output

```
6
2
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