[I - How Many Digits?](https://vjudge.net/problem/Kattis-howmanydigits" \t "_blank)

[Kattis - howmanydigits](https://vjudge.net/problem/512325/origin" \t "_blank)

Often times it is sufficient to know the rough size of a number, rather than its exact value. For example, a human can reason about which store to visit to buy milk if one store is roughly 11 kilometer away, and another store is roughly 100100kilometers away. The exact distance to each store is irrelevant to the decision at hand; only the sizes of the numbers matter.

For this problem, determine the ‘size’ of the factorial of an integer. By size, we mean the number of digits required to represent the answer in base-1010.

**Input**

Input consists of up to 1000010000 integers, one per line. Each is in the range [0,1000000][0,1000000]. Input ends at end of file.

**Output**

For each integer nn, print the number of digits required to represent n!n! in base-1010.

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| **Sample Input 1** | **Sample Output 1** |
| 0  1  3  10  20  是的这道题就是这么短……题目要求求出N!的数位长度，但是事实上这是一道高中题……  原理是logA\*B=logA+logB……  #include <iostream>  #include<sstream>  #include<iomanip>  #include<string>  #include<vector>  #include<stack>  #include<queue>  #include<algorithm>  #include<map>  #include<cmath>  #include<climits>  #define hash 997  #define MAX 1000005  #define ll long long  using namespace std;  vector<double>store;  int main()  {  store.resize(MAX);  store[0] = 0;  store[1] = 0;  for (int i = 2; i <MAX; i++)  {  store[i] = store[i - 1] + log10(i);  }  int index;  while (cin >> index)  {  cout << int(store[index]) + 1<<endl;  }  } | 1  1  1  7  19 |