**Last non-zero Digit in N!**

**Time Limit: 2000/1000 MS (Java/Others)    Memory Limit: 65536/32768 K (Java/Others)  
Total Submission(s): 6478    Accepted Submission(s): 1606**

**Problem Description**

The expression N!, read as "N factorial," denotes the product of the first N positive integers, where N is nonnegative. So, for example,   
N N!   
0 1   
1 1   
2 2   
3 6   
4 24   
5 120   
10 3628800   
  
For this problem, you are to write a program that can compute the last non-zero digit of the factorial for N. For example, if your program is asked to compute the last nonzero digit of 5!, your program should produce "2" because 5! = 120, and 2 is the last nonzero digit of 120.

**Input**

Input to the program is a series of nonnegative integers, each on its own line with no other letters, digits or spaces. For each integer N, you should read the value and compute the last nonzero digit of N!.

**Output**

For each integer input, the program should print exactly one line of output containing the single last non-zero digit of N!.

**Sample Input**

1

2

26

125

3125

9999

**Sample Output**

1

2

4

8

2

8

**Source**

[South Central USA 1997](http://acm.hdu.edu.cn/search.php?field=problem&key=South+Central+USA+1997&source=1&searchmode=source)

**Recommend**

JGShining   |   We have carefully selected several similar problems for you:  [1065](http://acm.hdu.edu.cn/showproblem.php?pid=1065) [1077](http://acm.hdu.edu.cn/showproblem.php?pid=1077) [1402](http://acm.hdu.edu.cn/showproblem.php?pid=1402) [1212](http://acm.hdu.edu.cn/showproblem.php?pid=1212) [1163](http://acm.hdu.edu.cn/showproblem.php?pid=1163)