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Digits In Factorial 📌

Easy

Accuracy: 29.7%

Submissions: 106K+

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Given an integer **N**. Find the number of digits that appear in its factorial.
Factorial is defined as, factorial(n) = 1*2*3*4.....*N and factorial(0) = 1.

Example 1:

Input: N = 5

Output: 3

Explanation: Factorial of 5 is 120.
Number of digits in 120 is 3 (1, 2, and 0)

Example 2:

Input: N = 120

Output: 199

Explanation: The number of digits in
120! is 199

Python3

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```
1 #User function Template for python3
2 import math
3 class Solution:
4     def digitsInFactorial(self,N):
5         sum=0.0
6         j=1
7         while(j<=N):
8             #sum stores log(j) + log(j+1) + ... + log(N)
9             sum+=(math.log10(j))
10            j+=1
11
12            return 1+ math.floor(sum)
13
14 #{
15     # Driver Code Starts
16 #Initial Template for Python 3
17
18 import math
19
20 def main():
21
22     T=int(input())
23
24     while(T>0):
25         N=int(input())
26         ob=Solution()
27         print(ob.digitsInFactorial(N))
28
29         T-=1
30
31 if __name__=="__main__":
32     main()
33 # } Driver Code Ends
```

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Custom Input

Compile & Run

Submit

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