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1 // The Euler number e is used as the base of natural logarithm
2 // It can be approximated using the formula
3 //  $e = 1/1! + 1/2! + 1/3! \dots + 1/n!$ 
4 // Write a program in Java that approximates e using a loop that terminates when the
5 // difference between two successive values of e differ by less than 0.0000001
6 public class eulerFunction {
7     public static void main(String[] args) {
8         double e = 1.0d;
9         int count = 1;
10        boolean flag = false;
11        while (flag == false) {
12            ++count;
13            // find fact of count
14            int fact = 1;
15            for (int i = 2; i <= count; i++) {
16                fact *= i;
17            }
18            double temp = e + (1.0 / fact);
19            if (temp - e < 0.0000001) {
20                System.out.println(count);
21                break;
22            }
23            e = temp;
24        }
25    }
26 }
```