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class Factorial:
    def calculate(self, n):
        if n == 0 or n == 1:
            return 1
        return n * self.calculate(n - 1)
def sum_of_factorials(n):
    factorials = []
    total_sum = 0
    fact_calculator = Factorial()
    for i in range(1, n + 1):
        fact = fact_calculator.calculate(i)
        factorials.append(f"{i}! = {fact}")
        total_sum += fact
    return total_sum
n = int(input())
if n > 0:
    total_sum = sum_of_factorials(n)
    print(f"Sum of all factorials: {total_sum}")

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class Fibonacci:
    def find_first_exceeding(self, x):
        sequence = [0, 1]
        while sequence[-1] <= x:
            sequence.append(sequence[-1] + sequence[-2])
        return sequence[:-1], sequence[-1]
x = int(input())
if x >= 0:
    fib_calculator = Fibonacci()
    sequence, first_exceeding = fib_calculator.find_first_exceeding(x)
    print(f"Fibonacci sequence: {' '.join(map(str, sequence))}")
    print(f"First Fibonacci number greater than {x}: {first_exceeding}")

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sentence = input()
words = sentence.split()
longest_word = max(words, key=len)
print(longest_word, len(longest_word))

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