Exam1_A4-1: Sum of First N Fibonacci Numbers

Objective: **Loop**

In mathematics, the Fibonacci sequence is a sequence in which each element is the sum of the two elements that precede it. Numbers that are part of the Fibonacci sequence are known as Fibonacci numbers, commonly denoted F_n. Starting from 0 and 1, the sequence begins

0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, ...

$F_1 = 0$, $F_2 = 1$, and

$F_n = F_{n-1} + F_{n-2}$ for $n > 2$.

Table below shows F_1 to F_{20}.

F_1	F_2	F_3	F_4	F_5	F_6	F_7	F_8	F_9	F_{10}	F_{11}	F_{12}	F_{13}	F_{14}	F_{15}	F_{16}	F_{17}	F_{18}	F_{19}	F_{20}
0	1	1	2	3	5	8	13	21	34	55	89	144	233	377	610	987	1597	2584	4181

Write a Python program that calculates the sum of the first *n* Fibonacci numbers.

INPUT

A non-negative integer, N

OUTPUT

Sum of first N Fibonacci numbers, S_N

EXAMPLES

Input (from keyboard)	Output (on screen)	Explanation
0	0	No number in sequence
1	0	$S_1 = F_1 = 0$
2	1	$S_2 = F_1 + F_2 = 0 + 1$
3	2	$S_3 = F_1 + F_2 + F_3 = 0 + 1 + 1$
4	4	$S_4 = 0 + 1 + 1 + 2$
10	88	$S_{10} = 0+1+1+2+3+5+8+13+21+34$
101	927372692193078999175	

TESTCASES in Grader

Testcases will be grouped. Each group has the following criteria:

Testcases quantity	Test case characteristics
10%	N < 2
30%	2 <= N < 20
40%	20 <= N < 100
20%	N >= 100