Climbing staircase

Problem - Given a staircase of 'n' steps, count the number of distinct ways to climb to the top. You can either climb 1 step or 2 steps at a time.

n=1, climbingStaircase(1) = 1 | (1)

n=2, climbingStaircase(2) = 2 | (1, 1) and (2)

n=3, climbingStaircase(3) = 3 | (1,1,1) (1, 2) and (2, 1)

n=4, climbingStaircase(4) = 5 | (1,1,1,1) (1,1,2) (1,2,1) (2,1,1) and (2,2)

Climbing staircase idea

At any given time, you can climb either 1 step or 2 steps

If you have to climb to step 'n', we can only climb from step 'n-1' or 'n-2'

Calculate the ways we can climb to 'n-1' and 'n-2' steps and add the two

climbingStaircase(n) = climbingStaircase(n-1) + climbingStaircase(n-2)