

Question 1.

You are climbing a staircase. It takes n steps to reach to the top. Each time you can either climb 1 or 2 steps. In how many distinct ways can you climb to the top?

Eg.

Input: 3

Output: 3

Explanation: There are three ways to climb to the top.

1. 1 step + 1 step + 1 step
2. 1 step + 2 steps
3. 2 steps + 1 step

1 - 1

2 - 2

3 - 3

4 - 5

1,1,1,1

1,2,1

2, 1, 1

1, 1, 2

2, 2

$\text{ways}(4) = \text{ways}(3) + \text{ways}(2)$

$\text{Ways_arr} = [-1 \text{ for } i \text{ in range}(N+1)]$

$\text{Ways_arr}[0] = 1$

$\text{Ways_arr}[1] = 2$

Def waysN(N):

 If $\text{Ways_arr}[N-1] \neq -1$:

 Return $\text{Ways_arr}[N-1]$

$\text{ans} = \text{waysN}(N-1) + \text{waysN}(N-2)$

$\text{Ways_arr}[N-1] = \text{ans}$

 Return ans

Question 2. Design an application for scraping customer reviews from multiple sources like google, yelp, tripadvisor etc.

Specifications:

1. Reviews should be scrapped at regular intervals.
2. The application should support searching over reviews, date range queries, filters on ratings.
3. Should handle scenarios when reviews are deleted, updated.
4. Should be performant and support scaling up a particular source or list of sources.
- 5.