1. N Meetings in One Room

There is **one** meeting room in a firm. There are **N** meetings in the form of **[S[i], F[i]]** where **S[i]** and **F[i]** are the start time and the finish time of meeting **i**, respectively**.**

What is the **maximum** number of meetings that can be accommodated in the meeting room when only one meeting can be held in the meeting room at a particular time? Also, note that the start time of one chosen meeting should not be equal to the end time of the other chosen meeting.

Example 1:

Input:

N = 6

S[] = {1,3,0,5,8,5}

F[] = {2,4,6,7,9,9}

Output:

4

Explanation:

Four meetings can be held with

given start and end timings.

Example 2:

Input:

N = 8

S[] = {75250, 50074, 43659, 8931, 11273,

27545, 50879, 77924}

F[] = {112960, 114515, 81825, 93424, 54316,

35533, 73383, 160252}

Output:

3

Explanation:

Only three meetings can be held

with given start and end timings.

Expected Time Complexity: O(N*LogN)
Expected Auxilliary Space: O(N)

Constraints:
$1 \leq N \leq 10^5$
$0 \leq S[i] < F[i] \leq 10^5$

2. Largest Number with Given Sum

Srikar lost the password of his super locker. He remembers the number of digits **N** as well as the sum **S** of all the digits of his password. He knows that his password is the largest number of **N** digits that can be made with a given sum **S**. As he is busy doing his homework, help him retrieve his password.

Example 1:

Input:

N = 5, S = 12

Output:

93000

Explanation:

The Sum of elements is 12.

The largest possible 5 digit number is 93000 with sum 12.

Example 2:

Input:

N = 3, S = 29

Output:

-1

Explanation:

There is no such three-digit number, whose sum is 29.

Constraints:
$1 \leq N \leq 10^4$
$0 \leq S \leq 10^6$

Expected Time Complexity: O(N)
Expected Space Complexity: O(1)

3. Count Ways to Reach The N^{th} Stair

There are **N** stairs, a person standing at the bottom wants to reach the top. The person can climb either **1 stair or 2 stairs at a time**.
Count the number of ways, the person can reach the top (**order does matter**).

Example 1:

Input:

N = 4

Output: 5

Explanation:

You can reach 4th stair in 5 ways.

Way 1: Climb 2 stairs at a time.

Way 2: Climb 1 stair at a time.

Way 3: Climb 2 stairs, then 1 stair and then 1 stair.

Way 4: Climb 1 stair, then 2 stairs then 1 stair.

Way 5: Climb 1 stair, then 1 stair and then 2 stairs.

Example 2:

Input:

N = 10

Output: 89

Explanation:

There are 89 ways to reach the 10th stair.

Expected Time Complexity: O(N)
Expected Space Complexity: O(1)

Constraints:
$1 <= N <= 10^5$