# QUESTION NO 1

# SMALLEST LETTER GREATER THAN TARGET

You are given an array of characters .**letters**. that is sorted in **non-decreasing order**, and a character .**target**.. There are **at least two different** characters in .**letters**..

Your function should return the smallest character in .**letters**. that is lexicographically greater than target. If such a character does not exist, return the first character in .**letters**..

[**∴**](https://math.stackexchange.com/questions/3133994/three-dot-%e2%88%b4-symbol-meaning) **You must achieve the solution with O(log(n))**

**Example 1:**

**Input:** letters = ["c","f","j"], target = "a"

**Output:** "c"

**Explanation:** The smallest character that is lexicographically greater than 'a' in letters is 'c'.

**Example 2:**

**Input:** letters = ["c","f","j"], target = "c"

**Output:** "f"

**Explanation:** The smallest character that is lexicographically greater than 'c' in letters is 'f'.

**Example 3:**

**Input:** letters = ["x","x","y","y"], target = "z"

**Output:** "x"

**Explanation:** There are no characters in letters that is lexicographically greater than 'z' so we

return letters[0].

**Constraints:**

* .**2 <= letters.length <= 104**.
* .**letters[i]**. is a lowercase English letter
* .**letters**. is sorted in **non-decreasing** order
* .**letters**. contains at least two different characters
* .**target**. is a lowercase English letter

# QUESTION NO 2

# CLIMBING STAIRS

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

**Example 1:**

**Input:** n = 2

**Output:** 2

**Explanation:** There are two ways to climb to the top.

1. 1 step + 1 step

2. 2 steps

**Example 2:**

**Input:** n = 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 steps

**Constraints:**

* **.1 <= n <= 45.**

**HINT**

**Fibonacci Series:** The Fibonacci sequence is a type series where each number is the sum of the two that precede it. It starts from 0 and 1 usually. The Fibonacci sequence is given by 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, and so on.

**\_\_\_\_\_\_**