Experiment 6

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Semester: 6th **Date of Performance:27/2/25**
Subject Name: Advanced Programming - 2 **Subject Code: 22CSH-351**

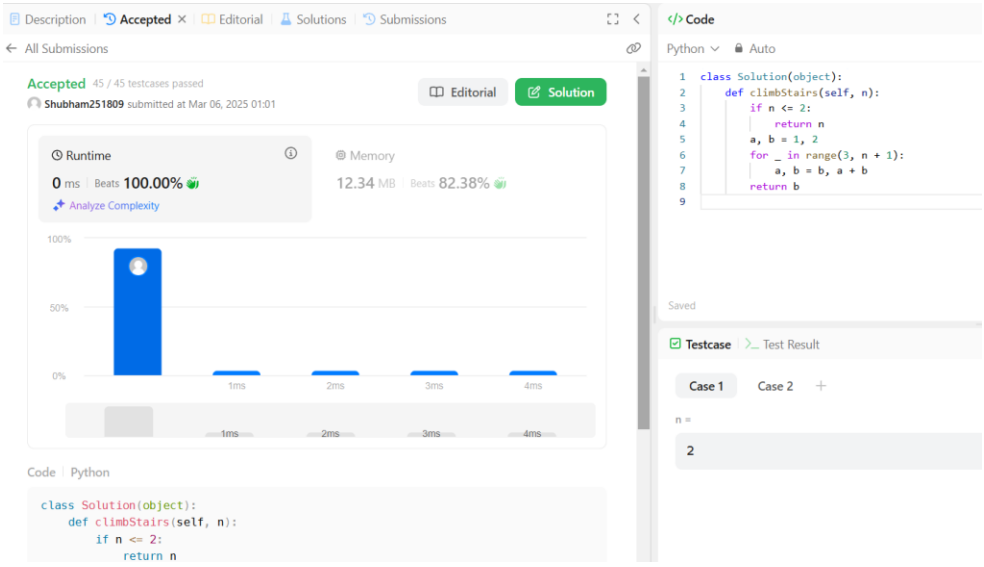
Ques 1:

Aim: Climbing Stairs

Code:

```
class Solution(object):
    def climbStairs(self, n):
        if n <= 2:
            return n
        a, b = 1, 2
        for _ in range(3, n + 1):
            a, b = b, a + b
        return b
```

Submission Screenshot:



Submission Link:

https://leetcode.com/problems/climbing-stairs/submissions/1564138819/

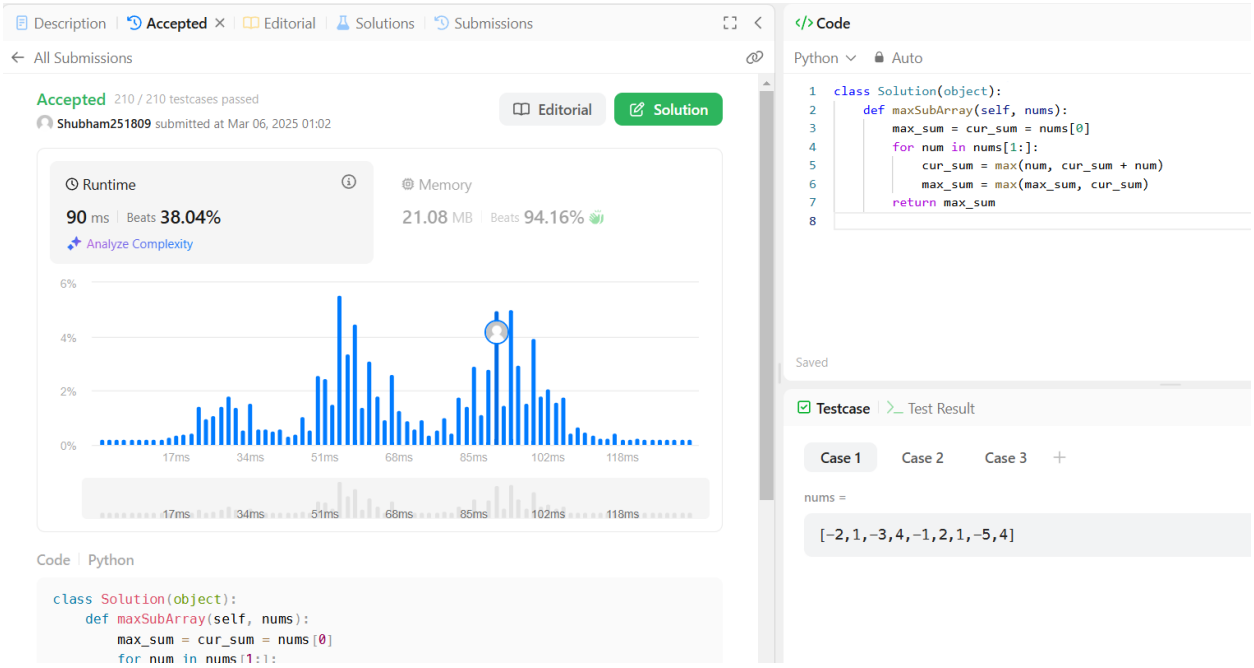
Ques 2:

Aim: Maximum Subarray

Code:

```
class Solution(object):
    def maxSubArray(self, nums):
        max_sum = cur_sum = nums[0]
        for num in nums[1:]:
            cur_sum = max(num, cur_sum + num)
            max_sum = max(max_sum, cur_sum)
        return max_sum
```

Submission Screenshot:



Submission Link:

https://leetcode.com/problems/maximum-subarray/submissions/1564139843/

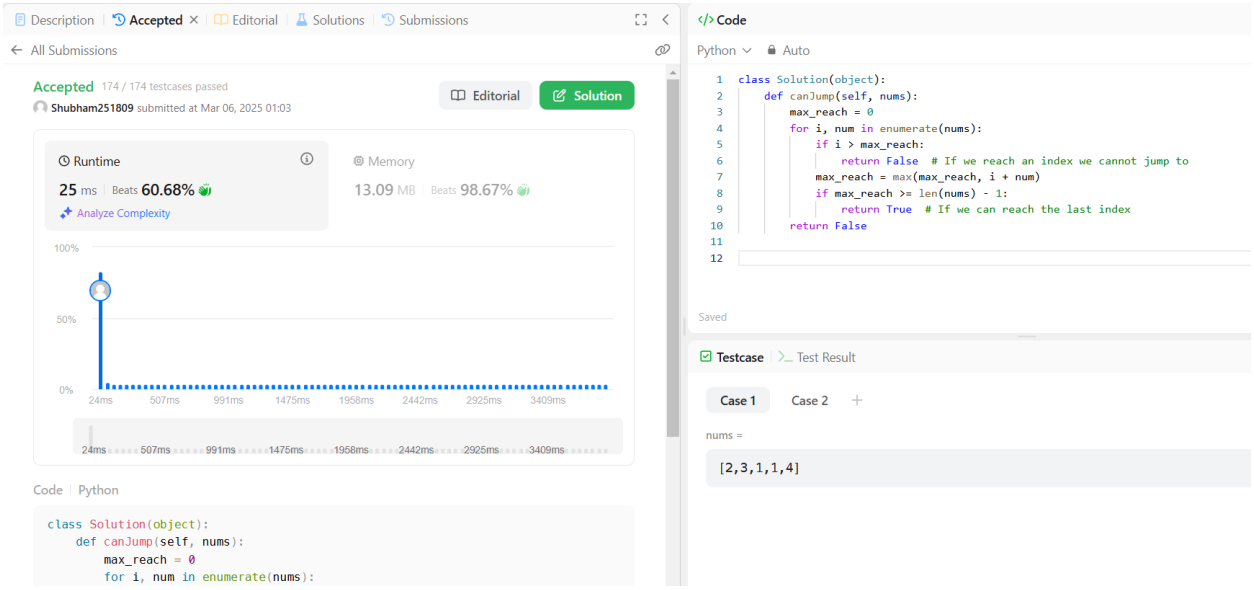
Ques 3:

Aim: Jump Game

Code:

```
class Solution(object):
    def canJump(self, nums):
        max_reach = 0
        for i, num in enumerate(nums):
            if i > max_reach:
                return False  # If we reach an index we cannot jump to
            max_reach = max(max_reach, i + num)
            if max_reach >= len(nums) - 1:
                return True  # If we can reach the last index
        return False
```

Submission Screenshot:



Submission Link:

https://leetcode.com/problems/jump-game/submissions/1564140713/