# Experiment-3.3

**Student Name: Nabha Varshney** **UID: 20BCS4995**

**Branch: CSE** **Section/Group: 20BCS-DM-704 (A)**

**Semester: 6th** **Date of Performance:10thMay 2023**

**Subject Name: Competitive Coding II** **Subject Code: 20CSP- 351**

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**Aim** – To demonstrate the concept of Dynamic Programming

**Objective-**

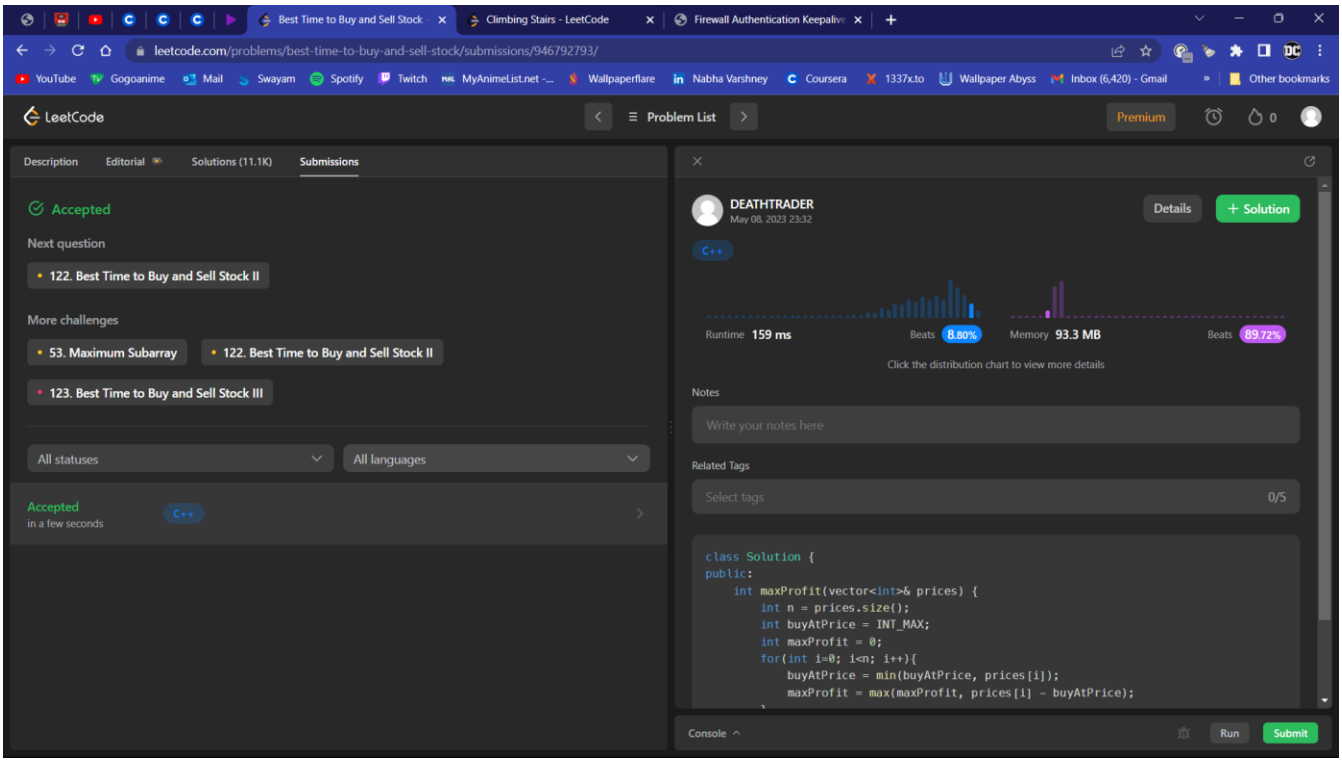
- The objective is to build problem solving capability and to learn the basic concepts of data structures.
- The implementation of climbing stairs using dynamic programming.
- The implementation of best time to buy and sell the stock.

**1) Best time to buy and sell the stock**
https://leetcode.com/problems/best-time-to-buy-and-sell-stock/

**Code –**

```
class Solution {
public:
    int maxProfit(vector<int>& prices) {
        int n = prices.size();
        int buyAtPrice = INT_MAX;
        int maxProfit = 0;
        for(int i=0; i<n; i++){
            buyAtPrice = min(buyAtPrice, prices[i]);
            maxProfit = max(maxProfit, prices[i] - buyAtPrice);
        }
        return maxProfit;
    }
};
```

**Output -**



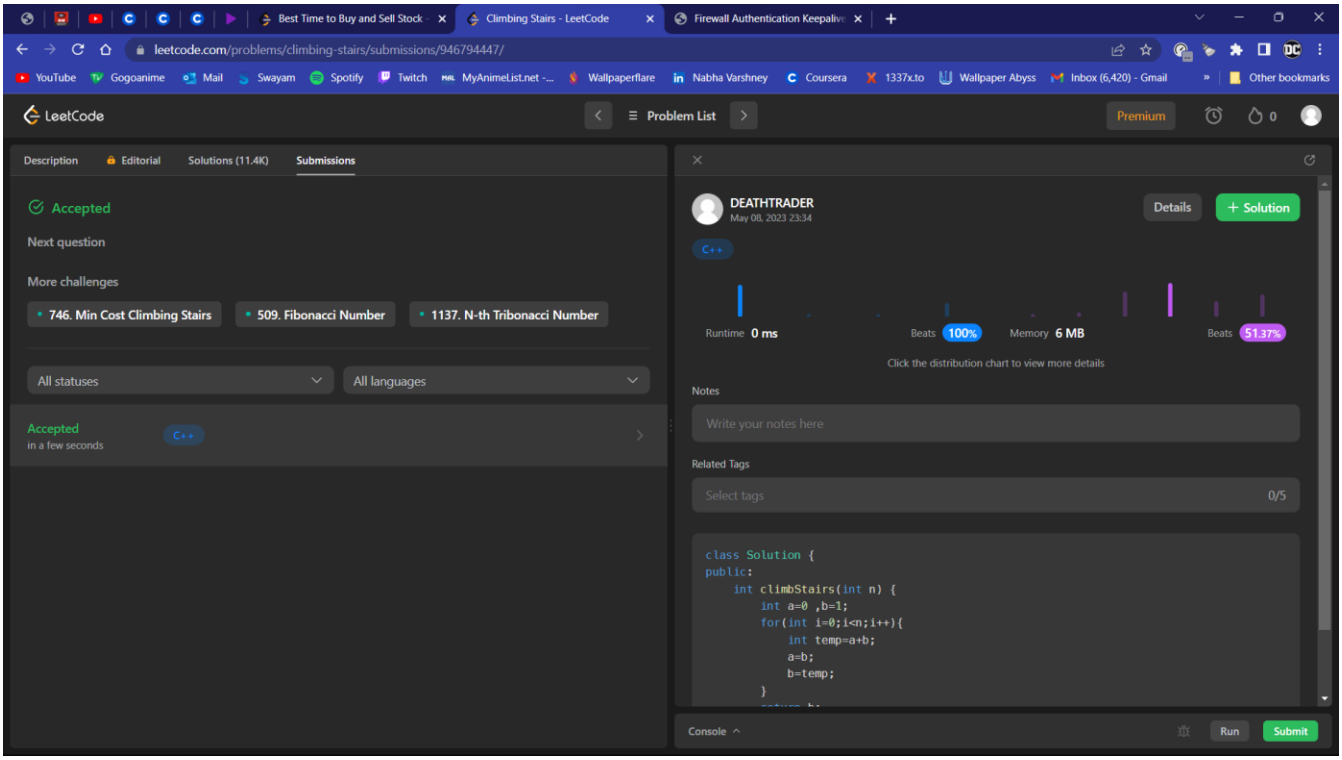

## 2) Climbing Stairs

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

**Code -**

```
class Solution {
public:
    int climbStairs(int n) {
        int a=0 ,b=1;
        for(int i=0;i<n;i++){
            int temp=a+b;
            a=b;
            b=temp;
        }
        return b;
    }
};
```

**Output –**


Best Time to Buy and Sell Stock
Climbing Stairs - LeetCode
Firewall Authentication Keepalive
leetcode.com/problems/climbing-stairs/submissions/946794447/
LeetCode
Problem List
Premium
Description
Editorial
Solutions (11.4K)
Submissions
Accepted
Next question
More challenges
746. Min Cost Climbing Stairs
509. Fibonacci Number
1137. N-th Tribonacci Number
All statuses
All languages
Accepted
in a few seconds
C++
DEATHTRADER
May 08, 2023 23:34
Details
+ Solution
Runtime 0 ms
Beats 100%
Memory 6 MB
Beats 51.37%
Click the distribution chart to view more details
Notes
Write your notes here
Related Tags
Select tags
0/5
class Solution {
public:
int climbStairs(int n) {
int a=0 ,b=1;
for(int i=0;i<n;i++){
int temp=a+b;
a=b;
b=temp;
}
Console
Run
Submit