Experiment 3.3

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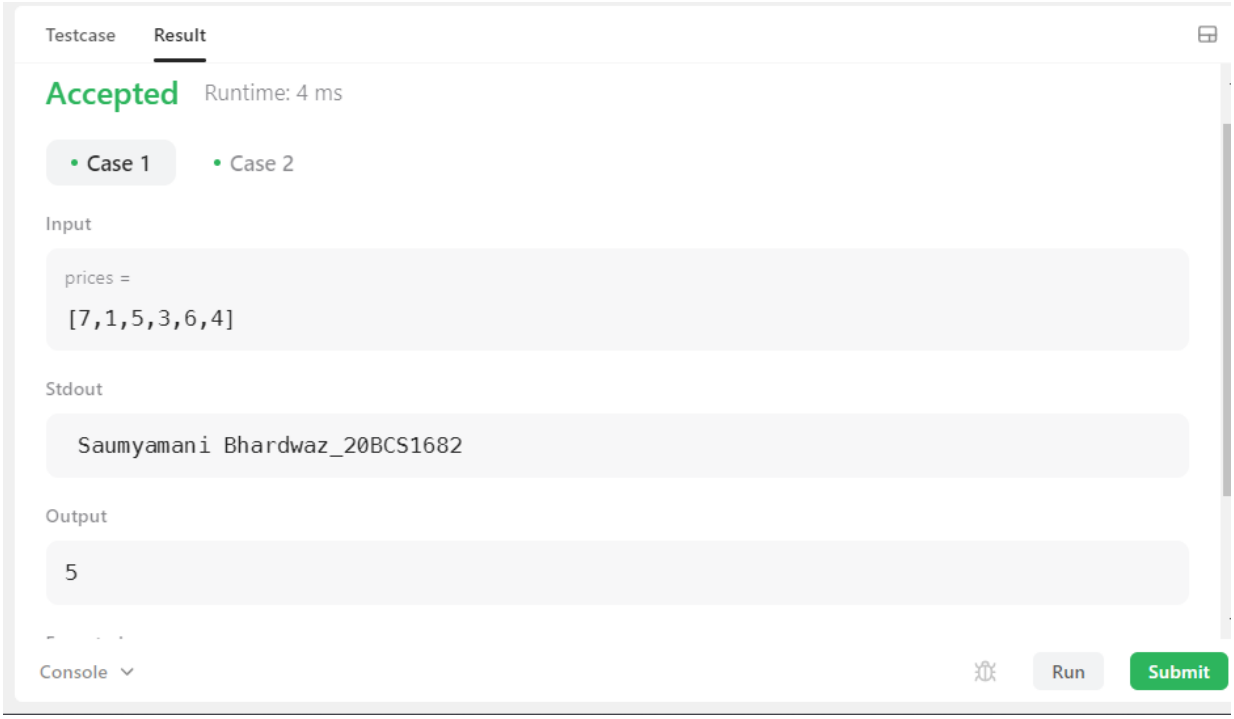
Subject Name: Competitive Coding-II
Subject Code: 20CSP-351

Aim: To demonstrate the concept of Dynamic Programming

121. Best Time to Buy and Sell Stock

```
class Solution {
public:
    int maxProfit(vector<int>& prices) {
        int n=prices.size();
        int buyPrice=INT_MAX;
        int maxPrice=0;
        for(int i=0;i<n;i++)
        {
            buyPrice=min(buyPrice,prices[i]);
            maxPrice=max(maxPrice,prices[i]-buyPrice);
        }
        cout<<" Saumyamani Bhardwaz_20BCS1682"<<endl;
        return maxPrice;
    }
};
```

Output:



70. Climbing Stairs

```
class Solution {
public:
    int climbStairs(int n) {
    cout<<"Saumyamani Bhardwaz_20BCS1682"<<endl;
        if(n==1||n==2||n==3)return n;
        int a = 2, b = 3,ans;
        for(int i = 4; i <= n; i++){
            ans = a+b;
            a = b;
            b = ans;
        }
        return b;
    }
};
```

Output: