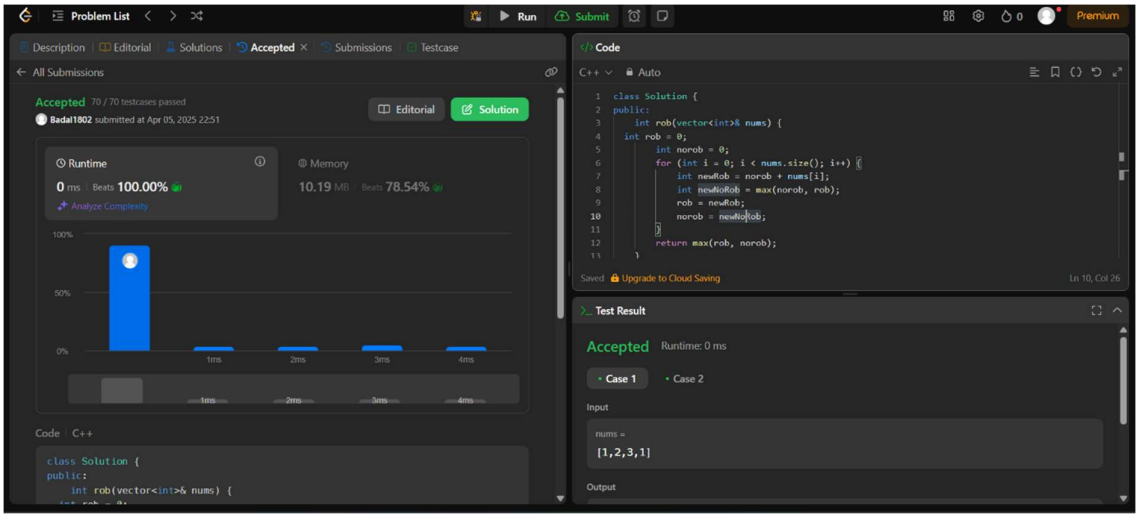
Experiment-7

House Robber

CODE:

```
class Solution {
public:
    int rob(vector<int>& nums) {
  int rob = 0;
        int norob = 0;
        for (int i = 0; i < nums.size(); i++) {
            int newRob = norob + nums[i];
            int newNoRob = max(norob, rob);
            rob = newRob;
            norob = newNoRob;
        }
        return max(rob, norob);
    }
};
```

OUTPUT:

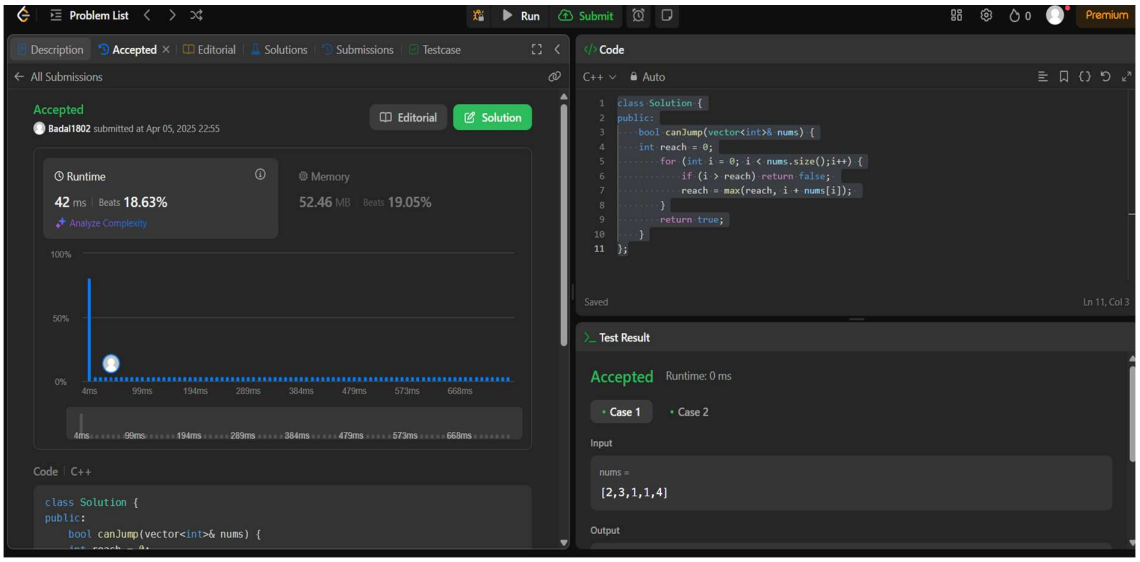


Jump Game

CODE:

```
class Solution {
public:
    bool canJump(vector<int>& nums) {
    int reach = 0;
        for (int i = 0; i < nums.size();i++) {
            if (i > reach) return false;
            reach = max(reach, i + nums[i]);
        }
        return true;
    }
};
```

OUTPUT:

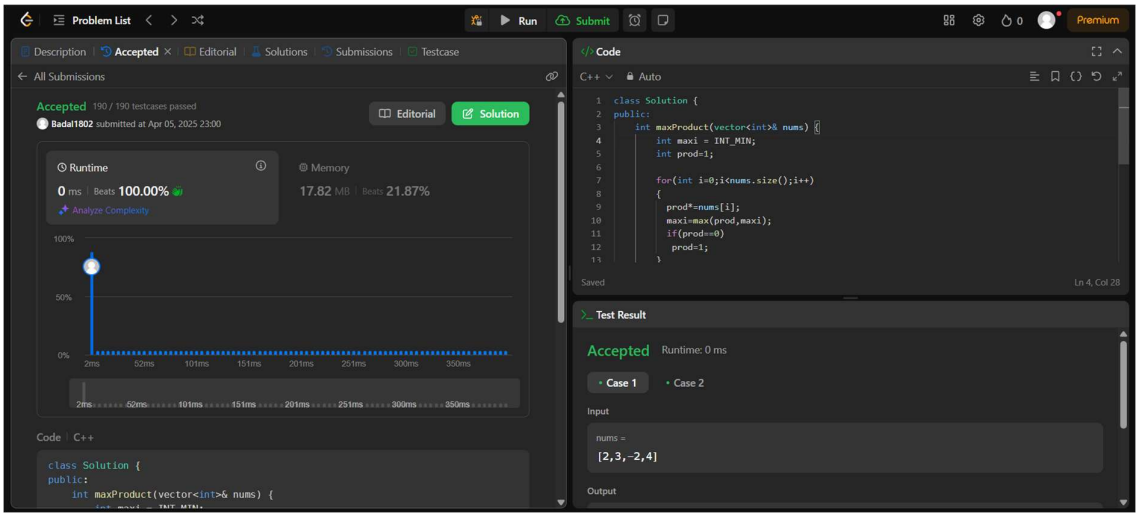


Maximum Product Subarray

CODE:

```
class Solution {
public:
    int maxProduct(vector<int>& nums) {
        int maxi = INT_MIN;
        int prod=1;
        for(int i=0;i<nums.size();i++)
        {
          prod*=nums[i];
          maxi=max(prod,maxi);
          if(prod==0)
           prod=1;
        }
        prod=1;
        for(int i=nums.size()-1;i>=0;i--)
        {
          prod*=nums[i];
          maxi=max(prod,maxi);
          if(prod==0)
           prod=1;
        }
        return maxi;
    }
};
```

OUTPUT:



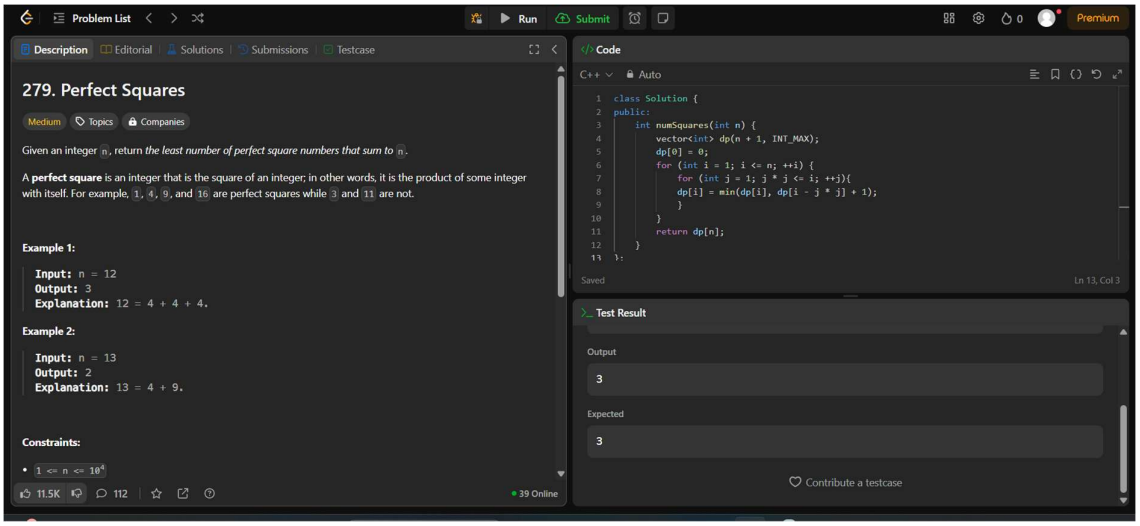
Perfect Squares

CODE:

```
class Solution {
public:
    int numSquares(int n) {
        vector<int> dp(n + 1, INT_MAX);
        dp[0] = 0;
        for (int i = 1; i <= n; ++i) {
            for (int j = 1; j * j <= i; ++j){
            dp[i] = min(dp[i], dp[i - j * j] + 1);
            }
        }
        return dp[n];
    }
```

};

OUTPUT:


Problem List
Run
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Premium
Description
Editorial
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Testcase
279. Perfect Squares
Medium
Topics
Companies
Given an integer n, return the least number of perfect square numbers that sum to n.
A perfect square is an integer that is the square of an integer; in other words, it is the product of some integer with itself. For example, 1, 4, 9, and 16 are perfect squares while 3 and 11 are not.
Example 1:
Input: n = 12
Output: 3
Explanation: 12 = 4 + 4 + 4.
Example 2:
Input: n = 13
Output: 2
Explanation: 13 = 4 + 9.
Constraints:
1 <= n <= 10^4
11.5K
112
39 Online
Code
C++
Auto
class Solution {
public:
int numSquares(int n) {
vector<int> dp(n + 1, INT_MAX);
dp[0] = 0;
for (int i = 1; i <= n; ++i) {
for (int j = 1; j * j <= i; ++j){
dp[i] = min(dp[i], dp[i - j * j] + 1);
}
}
return dp[n];
}
};
Saved
Ln 13, Col 3
Test Result
Output
3
Expected
3
Contribute a testcase