WORKSHEET 7

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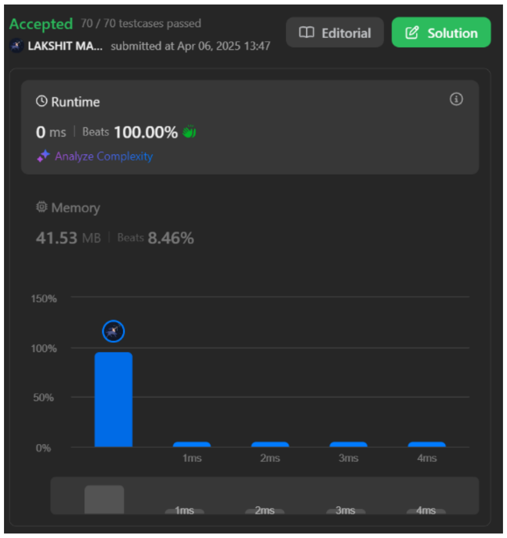
BRANCH: CSE **SECTION:** 22BCS_FL_IOT_601A
SEMESTER: 6 **DATE OF SUBMISSION:** 06/4/25
SUBJECT NAME: AP LAB -2 **SUBJECT CODE:** 22CSP-351

LEET CODE QUESTIONS :

198 - HOUSE ROBBER

PROBLEM: https://leetcode.com/problems/house-robber/

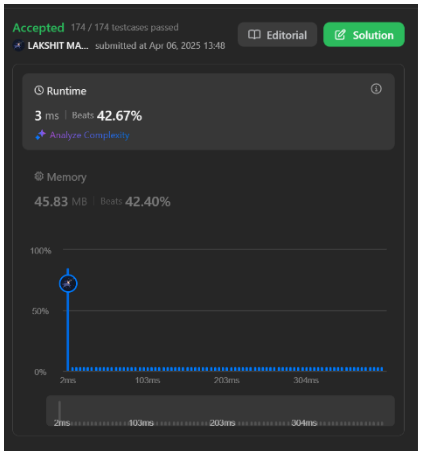
```
public class Solution {
    public int rob(int[] nums) {
        if (nums.length == 0) return 0;
        if (nums.length == 1) return nums[0]
        int[] dp = new int[nums.length];
        dp[0] = nums[0];
        dp[1] = Math.max(nums[0], nums[1]);
        for (int i = 2; i < nums.length; i++) {
            dp[i] = Math.max(dp[i - 1], dp[i - 2] + nums[i]);
        }
        return dp[nums.length - 1];
    }
}
```


Accepted 70 / 70 testcases passed
LAKSHIT MA... submitted at Apr 06, 2025 13:47
Runtime
0 ms | Beats 100.00%
Memory
41.53 MB | Beats 8.46%

LEETCODE 55 - JUMP GAME

PROBLEM: https://leetcode.com/problems/jump-game/

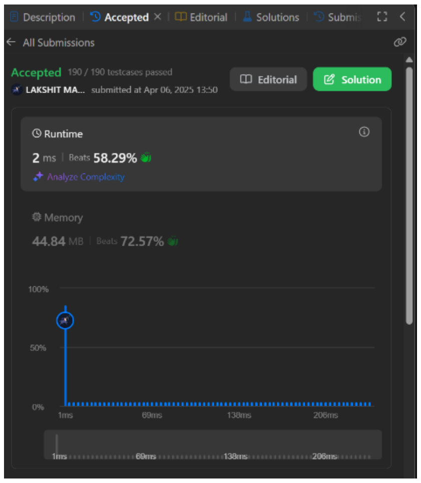
```
public class Solution {
    public boolean canJump(int[] nums) {
        int reachable = 0;
        for (int i = 0; i < nums.length; i++) {
            if (i > reachable) return false;
            reachable = Math.max(reachable, i + nums[i]);
        }
        return true;
    }
}
```


Accepted 174 / 174 testcases passed
LAKSHIT MA... submitted at Apr 06, 2025 13:48
Runtime
3 ms | Beats 42.67%
Memory
45.83 MB | Beats 42.40%

152 - MAXIMUM PRODUCT SUBARRAY

PROBLEM: https://leetcode.com/problems/maximum-product-subarray/

```
public class Solution {
    public int maxProduct(int[] nums) {
        int max = nums[0], min = nums[0], result = nums[0];
        for (int i = 1; i < nums.length; i++) {
            int temp = max;
            max = Math.max(nums[i], Math.max(max * nums[i],
min * nums[i]));
            min = Math.min(nums[i], Math.min(temp * nums[i], min
* nums[i]));
            result = Math.max(result, max);
        }
        return result;
    }
}
```

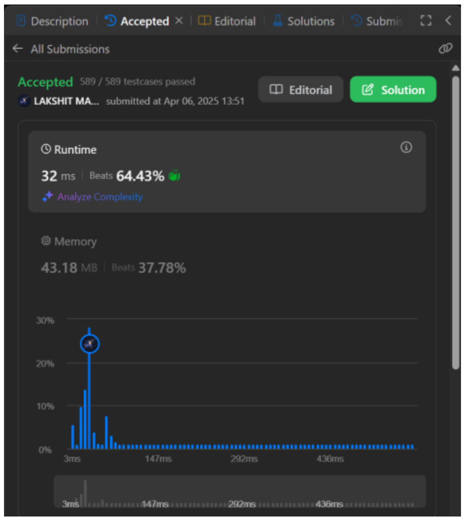


Accepted 190 / 190 testcases passed
LAKSHIT MA... submitted at Apr 06, 2025 13:50
Runtime
2 ms | Beats 58.29%
Memory
44.84 MB | Beats 72.57%

279 - PERFECT SQUARES

PROBLEM: https://leetcode.com/problems/perfect-squares/

```
public class Solution {
    public int numSquares(int n) {
        int[] dp = new int[n + 1];
        Arrays.fill(dp, Integer.MAX_VALUE);
        dp[0] = 0;
        for (int i = 1; i <= n; i++) {
            for (int j = 1; j * j <= i; j++) {
                dp[i] = Math.min(dp[i], dp[i - j * j] + 1);
            }
        }
        return dp[n];
    }
}
```

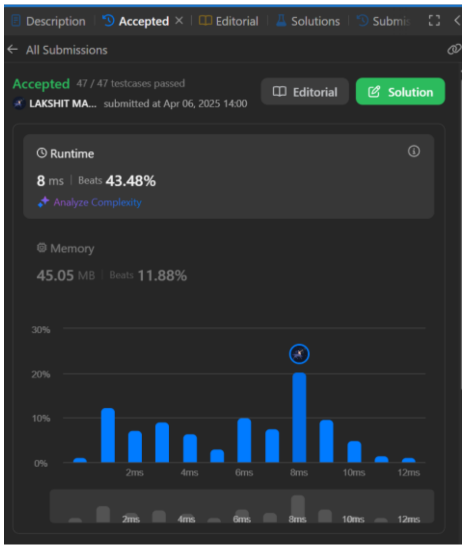


Accepted 589 / 589 testcases passed
LAKSHIT MA... submitted at Apr 06, 2025 13:51
Runtime
32 ms | Beats 64.43%
Memory
43.18 MB | Beats 37.78%

139 - WORD BREAK

PROBLEM: https://leetcode.com/problems/word-break/

```java
import java.util.*;
public class Solution139 {
    public boolean wordBreak(String s, List<String> wordDict) {
        Set<String> wordSet = new HashSet<>(wordDict);
        boolean[] dp = new boolean[s.length() + 1];
        dp[0] = true; // base case: empty string
        for (int i = 1; i <= s.length(); i++) {
            for (int j = 0; j < i; j++) {
                if (dp[j] && wordSet.contains(s.substring(j, i))) {
                    dp[i] = true;
                    break;
                }
            }
        }
        return dp[s.length()];
    }
}
```



Accepted 47 / 47 testcases passed
LAKSHIT MA... submitted at Apr 06, 2025 14:00

Runtime
8 ms | Beats 43.48%

Memory
45.05 MB | Beats 11.88%