



### Experiment 4

**Student Name: Barenya Behera**

**Branch: BE-CSE**

**Semester: 6<sup>th</sup>**

**Subject Name: Advanced Programming**

**Lab-2**

**UID: 22BCS15121**

**Section/Group: FL\_IOT-602/A**

**Date of Performance: 21/02/25**

**Subject Code: 22CSP-351**

#### **1. Implementation/Code:**

i. class Solution {

public String longestNiceSubstring(String s) {

if (s.length() < 2) {

return "";

}

Set<Character> set = new HashSet<>();

for (char c : s.toCharArray()) {

set.add(c);

}

for (int i = 0; i < s.length(); i++) {

char c = s.charAt(i);

if (set.contains(Character.toUpperCase(c)) &&  
set.contains(Character.toLowerCase(c))) {

continue;

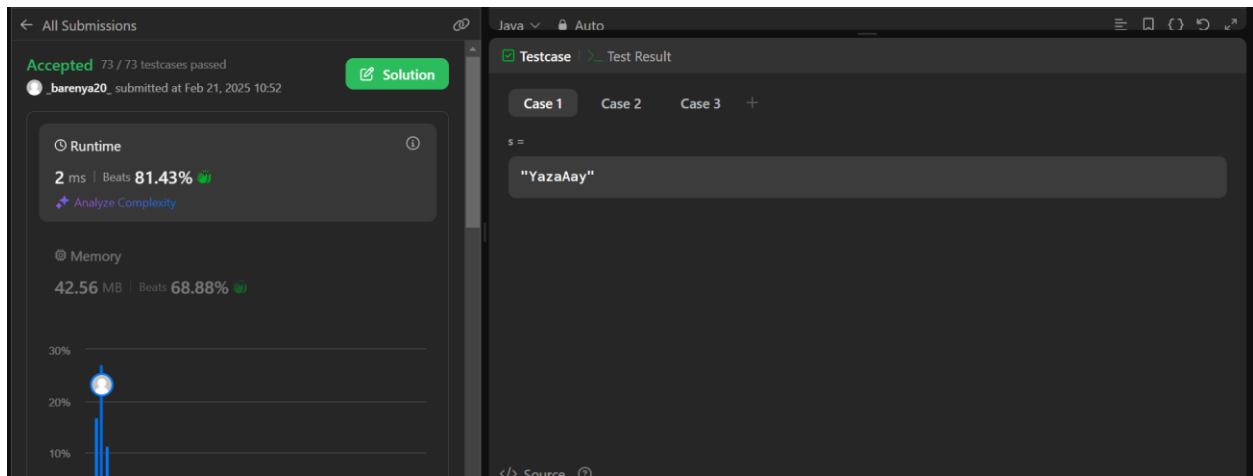
}

String left = longestNiceSubstring(s.substring(0, i));

```
String right = longestNiceSubstring(s.substring(i + 1));

return left.length() >= right.length() ? left : right;
}

return s;
}
}
```



ii.

```
public class Solution {
    public int reverseBits(int n) {
        int result = 0;
        for (int i = 0; i < 32; i++) {
            result = (result << 1) | (n & 1);
            n >>= 1;
        }
        return result;
    }
}
```



# DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Discover. Learn. Empower.

The screenshot shows a submission result for a 'Testcase'. On the left, the 'All Submissions' panel indicates 'Accepted' status with 600/600 testcases passed. The submission is by user '\_barenya...' and was submitted on Feb 21, 2025 at 10:54. The 'Runtime' section shows 1 ms and 15.66% beats. The 'Memory' section shows 41.51 MB and 93.89% beats. A bar chart shows the submission's performance relative to others. On the right, the 'Testcase' panel shows 'Case 1' with input 'n = 00000010100101000001111010011100'.

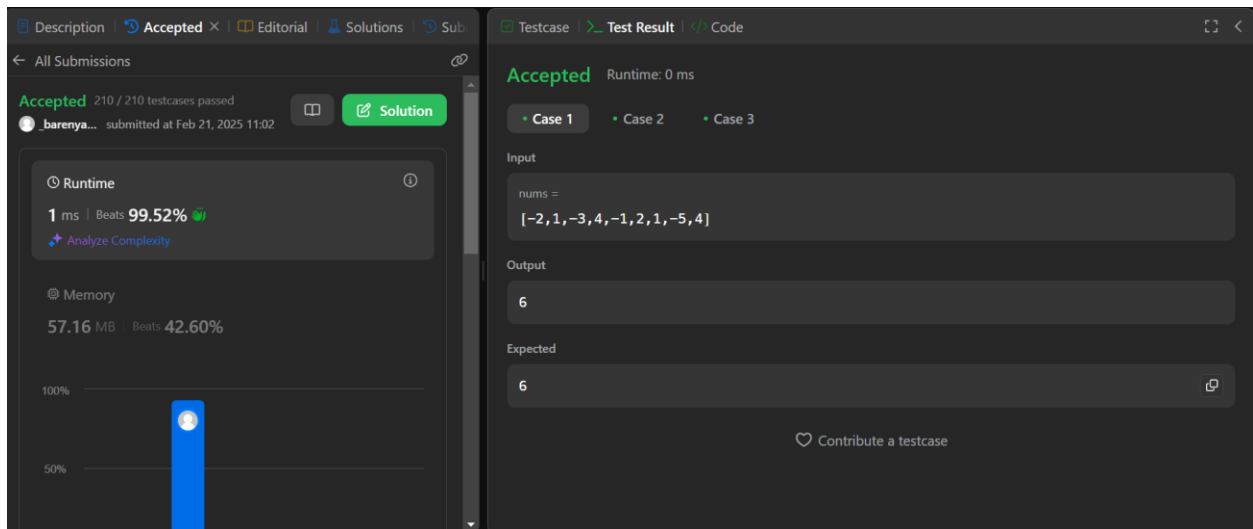
iii.

```
class Solution {  
    public int hammingWeight(int n) {  
        int count = 0;  
        while (n > 0) {  
            n = n & (n - 1);  
            count++;  
        }  
        return count;  
    }  
}
```

The screenshot shows a submission result for a 'Testcase'. On the left, the 'All Submissions' panel indicates 'Accepted' status with 598/598 testcases passed. The submission is by user '\_barenya...' and was submitted on Feb 21, 2025 at 10:55. The 'Runtime' section shows 0 ms and 100.00% beats. The 'Memory' section shows 40.60 MB and 84.96% beats. A bar chart shows the submission's performance relative to others. On the right, the 'Testcase' panel shows 'Case 1' with input 'n = 11' and output '3'. The 'Expected' output is also '3'. A 'Contribute a testcase' button is visible at the bottom.

iv.

```
class Solution {  
    public int maxSubArray(int[] nums) {  
        int maxSum=nums[0];  
        int currentSum=nums[0];  
        for(int i=1;i<nums.length;i++){  
            currentSum=Math.max(nums[i],currentSum+nums[i]);  
            maxSum=Math.max(maxSum,currentSum);  
        }  
        return maxSum;  
    }  
}
```



The screenshot displays a coding platform interface. On the left, the 'All Submissions' tab is active, showing a submission by user 'barenya...' that was 'Accepted' at Feb 21, 2025 11:02. The submission details include a runtime of 1 ms (beating 99.52% of solutions) and a memory usage of 57.16 MB (beating 42.60%). A blue bar chart shows the submission's performance relative to others. On the right, the 'Test Result' tab is active, showing 'Accepted' status with a runtime of 0 ms. It lists three test cases, with 'Case 1' selected. The input for Case 1 is 'nums = [-2,1,-3,4,-1,2,1,-5,4]' and the output is '6', which matches the expected result.

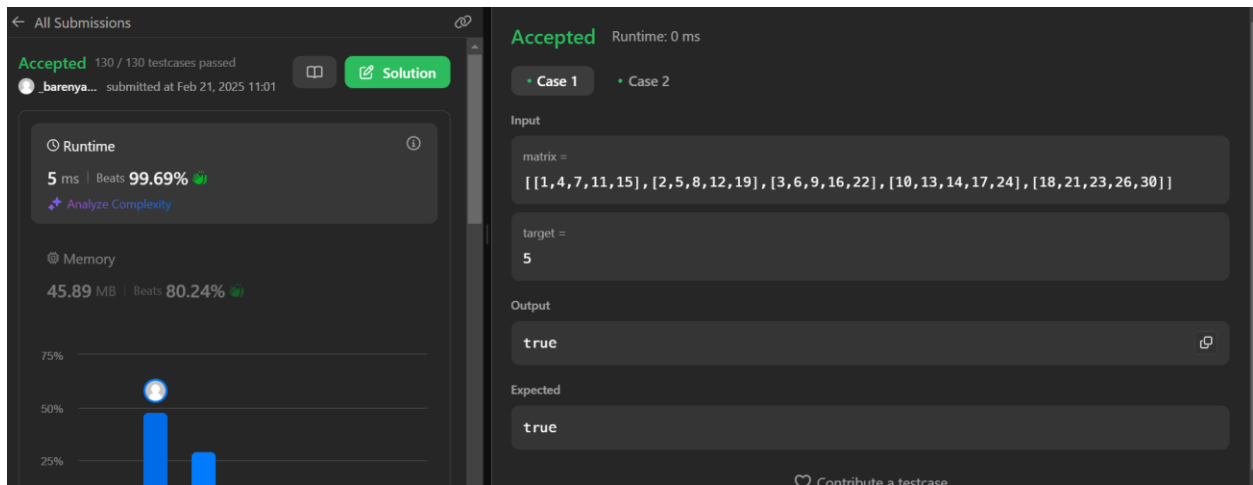
v.

```
class Solution {  
    public boolean searchMatrix(int[][] matrix, int target) {  
        if(matrix==null||matrix.length==0||matrix[0].length==0){  
            return false;  
        }  
        int rows=matrix.length;  
        int cols=matrix[0].length;  
        int row=0,col=cols-1;  
    }  
}
```

```

while(row<rows && col<=0){
    if(matrix[row][col]==target){
        return true;
    }
    else if(matrix[row][col]>target){
        col--;
    }
    else{
        row++;
    }
}
return false;
}
}

```



vi.

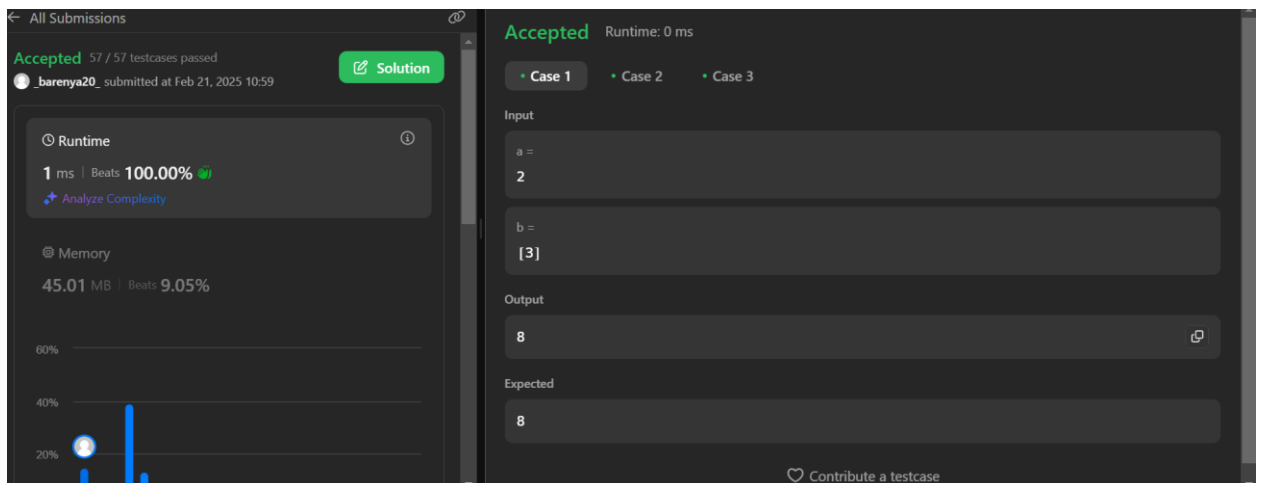
```

class Solution {
private static final int MOD = 1337;
private int powerMod(int x, int y, int mod) {
    int result = 1;
    x = x % mod;
    while (y > 0) {
        if (y % 2 == 1) {

```

```
        result = (result * x) % mod;
    }
    y /= 2;
    x = (x * x) % mod;
}
return result;
}
```

```
public int superPow(int a, int[] b) {
    a %= MOD;
    int exponent = 0;
    for (int digit : b) {
        exponent = (exponent * 10 + digit) % 1140;
    }
    if (exponent == 0) {
        exponent = 1140;
    }
    return powerMod(a, exponent, MOD);
}
}
```



The screenshot displays a submission page on a coding platform. On the left, under 'All Submissions', a submission by user `_barenaya20_` is shown as 'Accepted' with 57/57 testcases passed. It was submitted on Feb 21, 2025 at 10:59. A green 'Solution' button is visible. Performance metrics are listed: Runtime is 1 ms (Beats 100.00%) and Memory is 45.01 MB (Beats 9.05%). A bar chart at the bottom shows the submission's performance relative to others. On the right, the 'Accepted' status is confirmed with a runtime of 0 ms. Three test cases are listed: Case 1, Case 2, and Case 3. The input for Case 1 shows `a = 2` and `b = [3]`, resulting in an output of `8`, which matches the expected output of `8`. A 'Contribute a testcase' link is at the bottom right.