UNIVERSITY INSTITUTE OF ENGINEERING

Department of Computer Science & Engineering

(BE-CSE/IT-6th Sem)

Subject Name: Advanced Programming Lab - 2

Subject Code: 22CSP-351

Submitted to:

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Submitted by:

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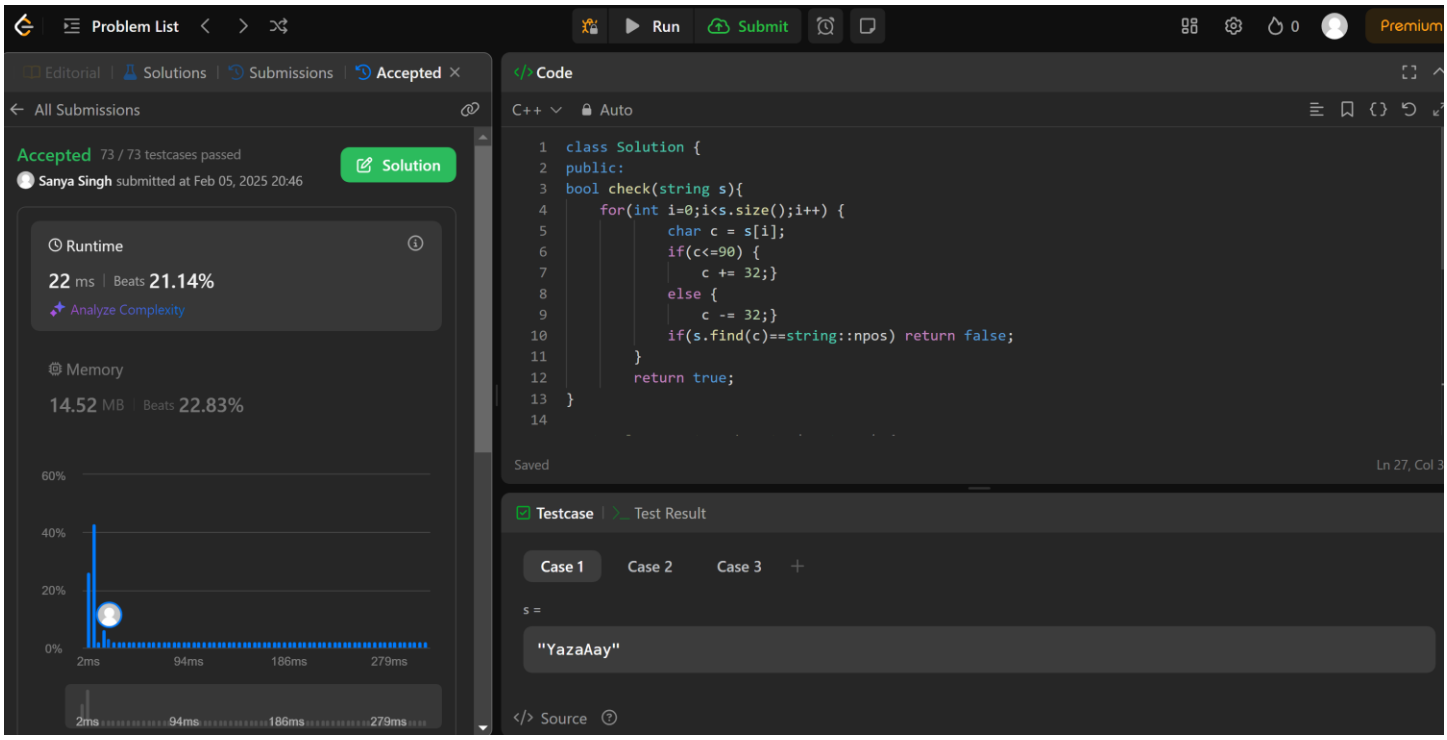
Section: FL_IOT_604

Group: A

ASSIGNMENT-4

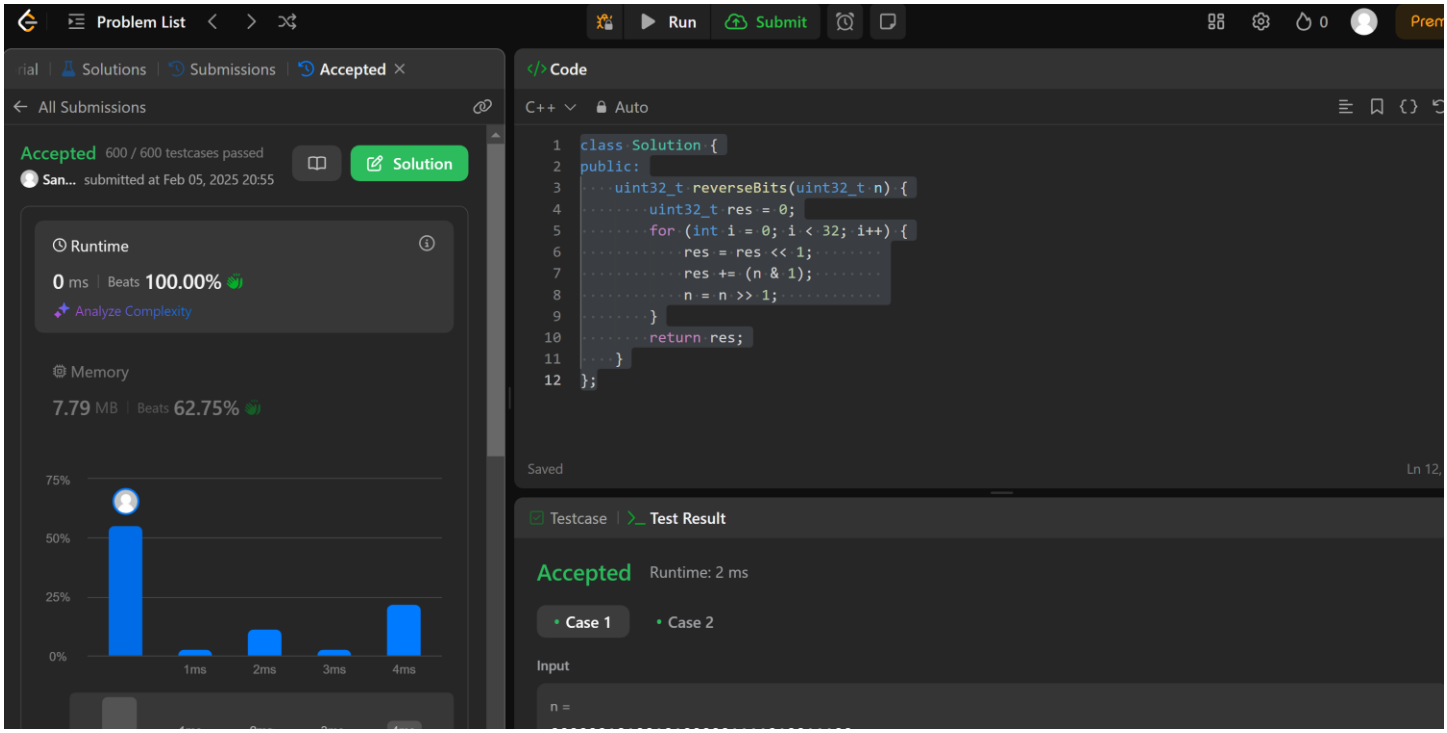
1763.Longest Nice Substring

```
class Solution {
public:
bool check(string s){
    for(int i=0;i<s.size();i++) {
            char c = s[i];
            if(c<=90) {
                c += 32;}
            else {
                c -= 32;}
            if(s.find(c)==string::npos) return false;
        }
        return true;
}
string longestNiceSubstring(string s) {
        string ans = "";
        for(int i=0;i<s.size();i++){
            string res = "";
            res += s[i];
            for(int j = i+1;j<s.size();j++){
                res += s[j];
                if(check(res) and res.size()>ans.size()) ans = res;
            }
        }
        return ans;
    }
};
```



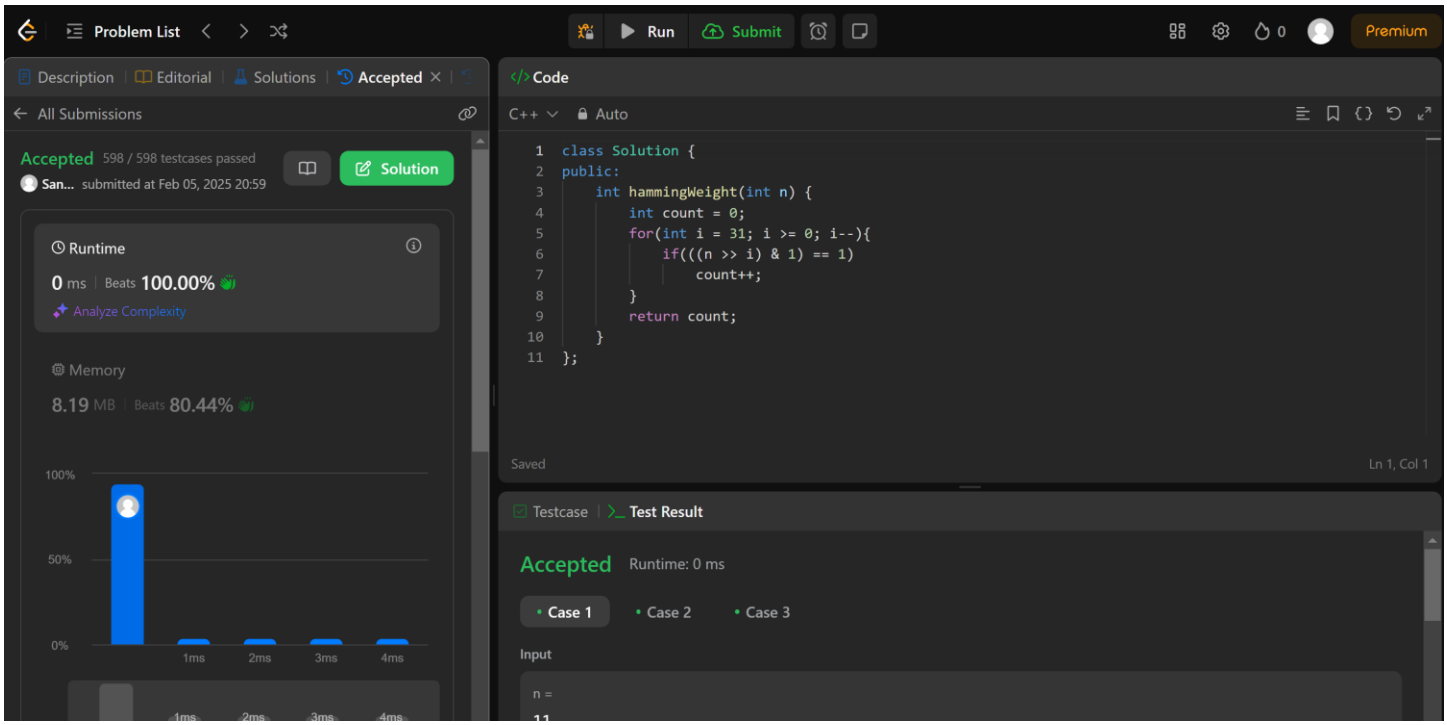
190.[Reverse Bits]

```
class Solution {
public:
    uint32_t reverseBits(uint32_t n) {
        uint32_t res = 0;
        for (int i = 0; i < 32; i++) {
            res = res << 1;
            res += (n & 1);
            n = n >> 1;
        }
        return res;
    }
};
```



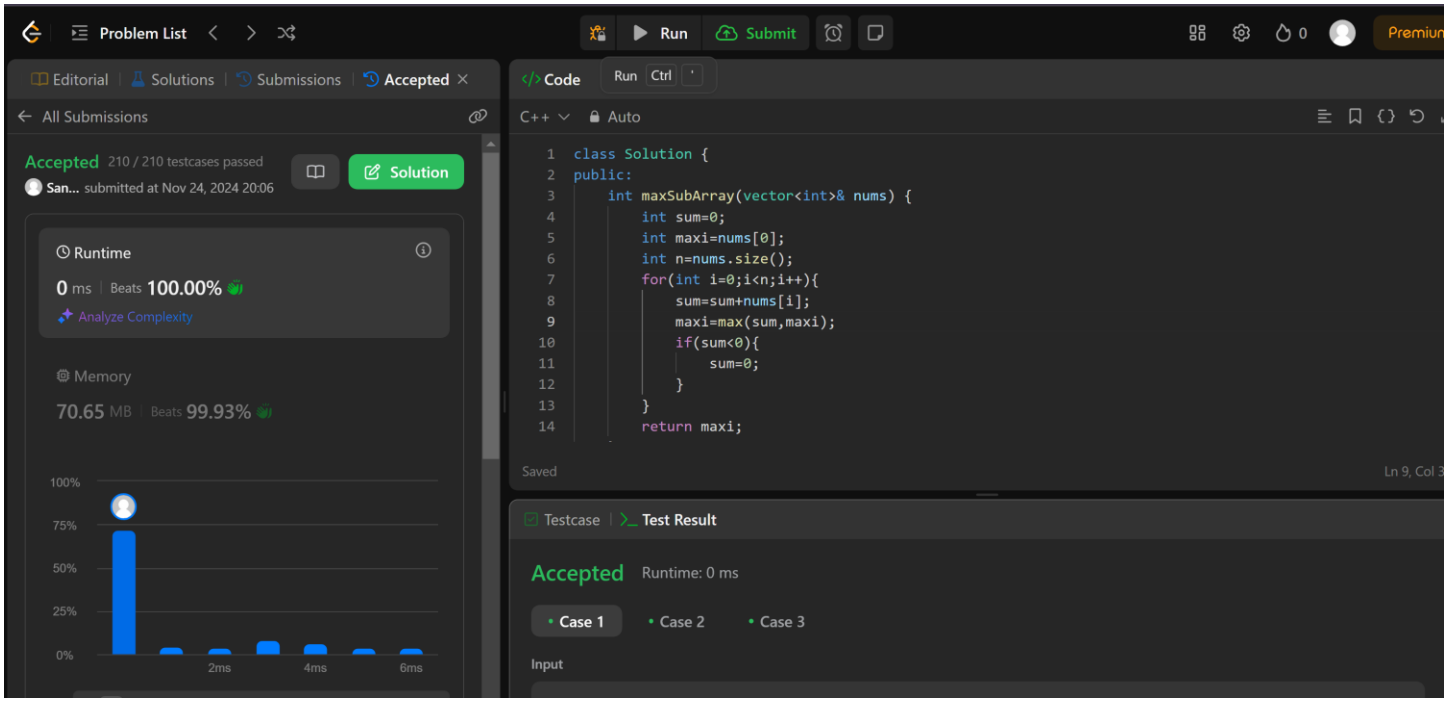
191.[Number of 1 Bits]

```
class Solution {
public:
    int hammingWeight(int n) {
        int count = 0;
        for(int i = 31; i >= 0; i--){
            if(((n >> i) & 1) == 1)
                count++;
        }
        return count;
    }
};
```



53.[Maximum Subarray]

```
class Solution {
public:
    int maxSubArray(vector<int>& nums) {
        int sum=0;
        int maxi=nums[0];
        int n=nums.size();
        for(int i=0;i<n;i++){
            sum=sum+nums[i];
            maxi=max(sum,maxi);
            if(sum<0){
                sum=0;
            }
        }
        return maxi;
    }
};
```



240.[Search a 2D Matrix II]

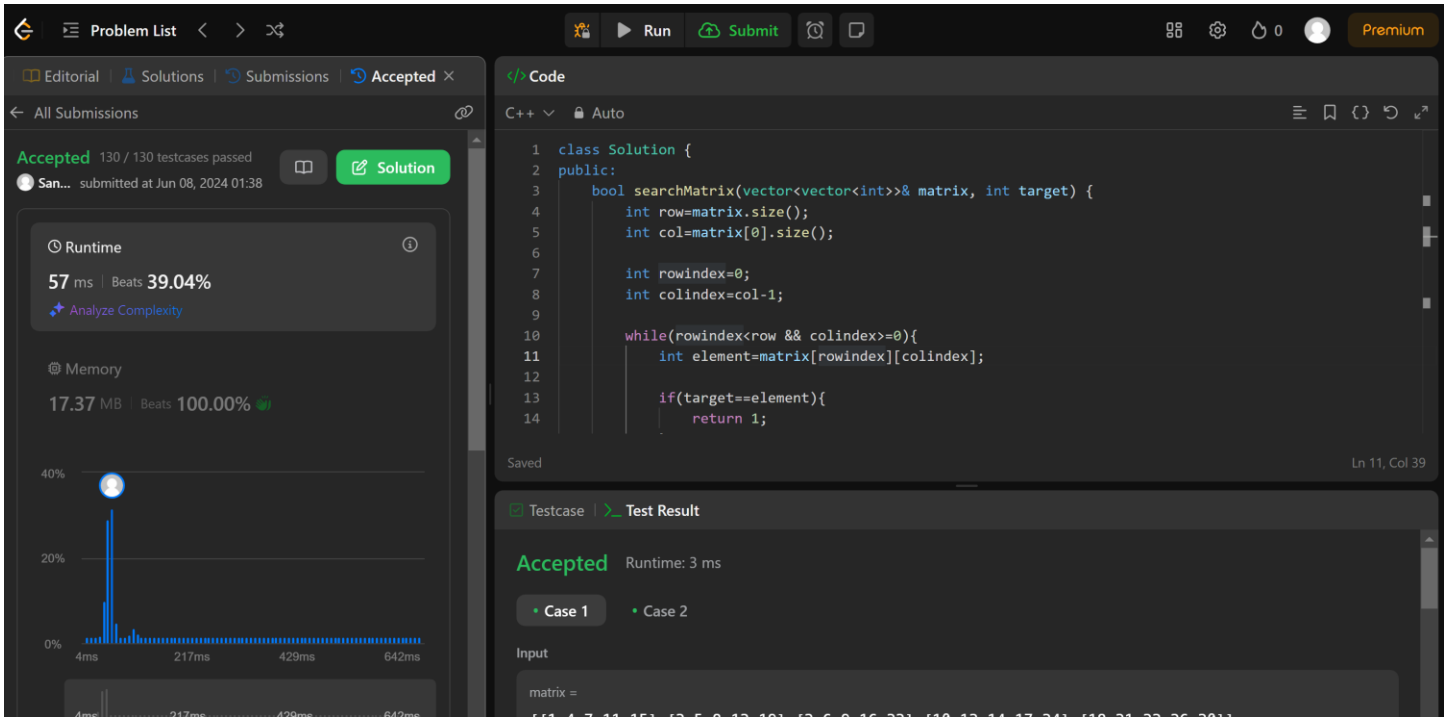
```
class Solution {
public:
    bool searchMatrix(vector<vector<int>>& matrix, int target) {
        int row=matrix.size();
        int col=matrix[0].size();

        int rowindex=0;
        int colindex=col-1;

        while(rowindex<row && colindex>=0){
            int element=matrix[rowindex][colindex];

            if(target==element){
                return 1;
            }
            if(element<target){
                rowindex++;
```

```
        }
        else{
            colindex--;
        }
    }
    return 0;
  }
};
```



372.[Super Pow]

```
class Solution {
    const int base = 1337;
    int powmod(int a, int k)
    {
        a %= base;
        int result = 1;
        for (int i = 0; i < k; ++i)
            result = (result * a) % base;
        return result;
    }
```

public:

```
    int superPow(int a, vector<int>& b) {
        if (b.empty()) return 1;
        int last_digit = b.back();
        b.pop_back();
        return powmod(superPow(a, b), 10) * powmod(a, last_digit) % base;
    }
};
```