



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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Assignment - 4

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Section/Group:602-A

Semester: 6

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Subject Name: Advanced Programming Lab

Subject Code: 22CSH-359

1.Longest Nice Substring

```
class Solution {
public:
    string longestNiceSubstring(string s) {
        if(s.size() < 2) return "";
        unordered_set<char> set(begin(s), end(s));
        for(int i = 0; i < s.size(); i++) {
            if(!set.count((char)(s[i] ^ 32))) {
                string s1 = longestNiceSubstring(s.substr(0, i));
                string s2 = longestNiceSubstring(s.substr(i + 1));
                return s1.size() >= s2.size() ? s1 : s2;
            }
        }
        return s;
    }
};
```

Accepted 73 / 73 testcases passed

Anirudh_Gautam373 submitted at Feb 21, 2025 23:21

[Solution](#)

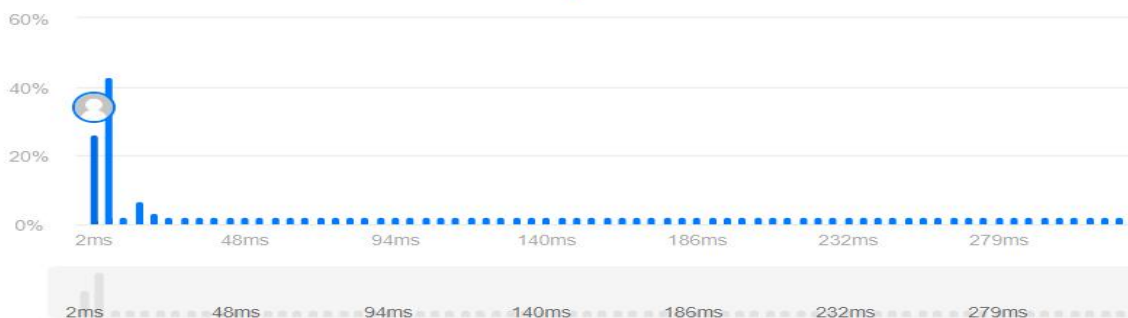
Runtime

5 ms | Beats 76.73%

[Analyze Complexity](#)

Memory

14.34 MB | Beats 32.31%



2. Reverse Bits

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

Accepted 600 / 600 testcases passed

Anirudh_Gautam373 submitted at Feb 21, 2025 23:23

Editorial

Solution



3. Number of 1 Bits

```
class Solution {
public:
    int hammingWeight(uint32_t n) {
        int count = 0;

        while (n) {
            n &= (n - 1);
            count++;
        }

    }
};
```

Accepted 598 / 598 testcases passed

Anirudh_Gautam373 submitted at Feb 21, 2025 23:23

Editorial

Solution

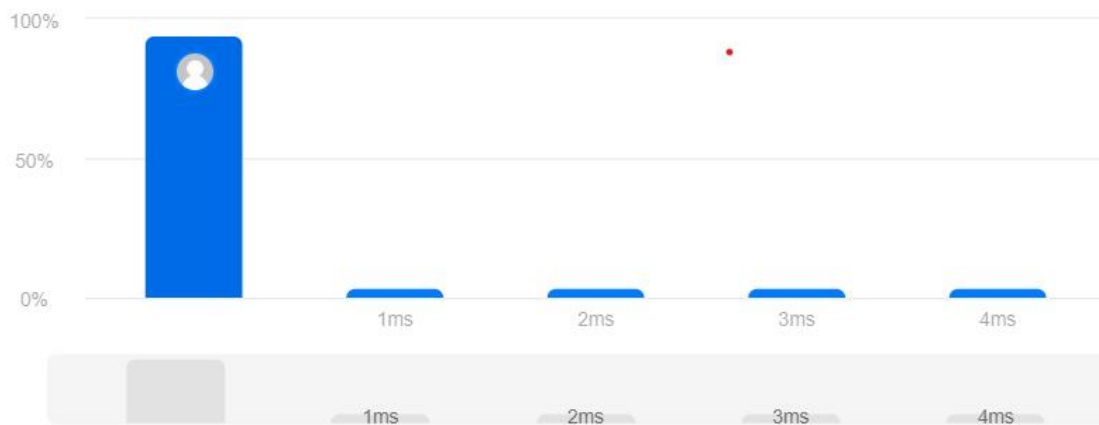
Runtime

0 ms | Beats 100.00%

Analyze Complexity

Memory

8.15 MB | Beats 80.49%



4. Maximum Subarray

```
class Solution {
public:
    int maxSubArray(vector<int>& nums) {
        int res = nums[0];
        int total = 0;

        for (int n : nums) {
            if (total < 0) {
                total = 0;
            }

            total += n;
            res = max(res, total);
        }

        return res;
    }
};
```

Accepted 210 / 210 testcases passed

Anirudh_Gautam373 submitted at Feb 21, 2025 23:23

Editorial

Solution

Runtime

0 ms | Beats 100.00%

Analyze Complexity

Memory

71.82 MB | Beats 18.15%

Analyze Complexity



5.Search a 2D Matrix II

```
class Solution {
public:
    bool searchMatrix(vector<vector<int>>& matrix, int target) {
        int cols = matrix[0].size() - 1;
        int n = matrix.size() - 1;
        int rows = 0;

        while(rows <= n && cols >= 0){
            int toCompare = matrix[rows][cols];
            if(toCompare > target){
                cols--;
            }else if(toCompare < target){
                rows++;
            }else{
                return true;
            }
        }

        return false;
    }
};
```

Accepted 130 / 130 testcases passed

Anirudh_Gautam373 submitted at Feb 21, 2025 23:23

Editorial

Solution

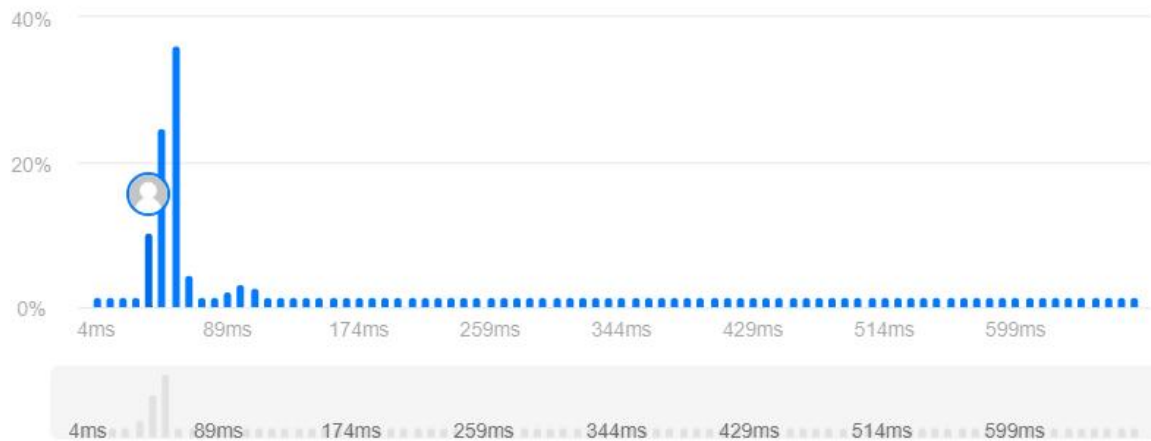
Runtime

41 ms | Beats 92.70%

Analyze Complexity

Memory

18.80 MB | Beats 37.05%



6. Super Pow

```
class Solution {
    const int base = 1337;
    int powmod(int a, int k) //a^k mod 1337 where 0 <= k <= 10
    {
        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;
    }
};
```

Accepted 57 / 57 testcases passed

Anirudh_Gautam373 submitted at Feb 21, 2025 23:23

[Solution](#)

⌚ Runtime



7 ms | Beats 8.12%

[Analyze Complexity](#)

⚙ Memory

15.25 MB | Beats 53.03% 🌿

