1.Longest Nice Substring.

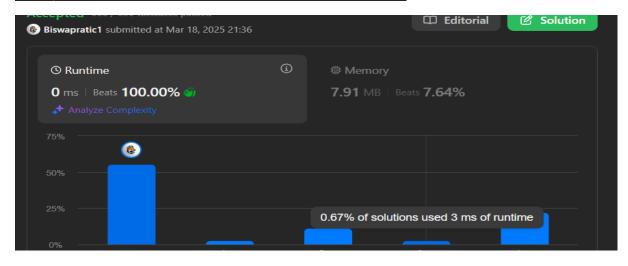
```
class Solution {
public:
    string longestNiceSubstring(string s) {
        if (s.size() < 2) return "";

        unordered_set<char> charSet(s.begin(), s.end());
        for (int i = 0; i < s.size(); ++i) {
            if (charSet.count(tolower(s[i])) && charSet.count(toupper(s[i]))) {
                 continue;
            }
            string left = longestNiceSubstring(s.substr(0, i));
            string right = longestNiceSubstring(s.substr(i + 1));

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

        return s;
    }
}
```

2. Reverse Bits.



3. Number of 1 Bits.

4. Maximum Subarray.

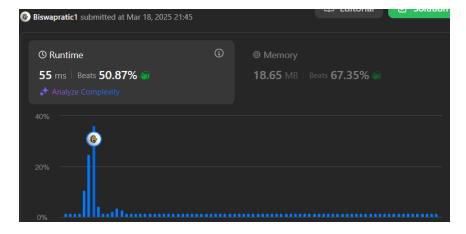
```
class Solution {
  public:
    int maxSubArray(vector<int>& nums) {
        int maxSum = nums[0];
        int currentSum = 0;

        for (int num : nums) {
            currentSum = max(num, currentSum + num);
            maxSum = max(maxSum, currentSum);
        }

        return maxSum;
    }
}
```

5.Search a 2D Matrix II.

```
class Solution {
  public:
    bool searchMatrix(vector<vector<int>>& matrix, int target) {
    int m = matrix.size(), n = matrix[0].size();
    int row = 0, col = n - 1;
    while (row < m && col >= 0) {
        if (matrix[row][col] == target) {
            return true;
        } else if (matrix[row][col] > target) {
            col--;
        } else {
            row++;
        }
    }
    return false;
}
```



6.Super Pow.

```
class Solution {
public:
    const int MOD = 1337;

int powerMod(int a, int b) {
        a %= MOD;
        int result = 1;
        while (b > 0) {
            if (b % 2 == 1) {
                result = (result * a) % MOD;
                 b /= 2;
            }
            return result;

int superPow(int a, vector<int>& b) {
        if (b.empty()) return 1;

        int lastDigit = b.back();
        b.pop_back();

        int part1 = powerMod(a, lastDigit);
        int part2 = powerMod(superPow(a, b), 10);
        return (part1 * part2) % MOD;
}

;

}
```

7. Beautiful Array.

8.The Skyline Problem.

```
2 ∨public:
        vector<vector<int>> getSkyline(vector<vector<int>>& buildings) {
            vector<pair<int, int>> points;
            for (auto& b : buildings) {
                points.emplace_back(b[0], -b[2]);
                points.emplace_back(b[1], b[2]);
9 🗸
            sort(points.begin(), points.end(), [](const pair<int, int>& a, const pair<int, int>&
    b) {
                return a.first == b.first ? a.second < b.second : a.first < b.first;</pre>
            multiset<int> heights = {0};
            vector<vector<int>> result;
            int prevHeight = 0;
            for (auto& point : points) {
18
                if (point.second < 0) heights.insert(-point.second);</pre>
19
                else heights.erase(heights.find(point.second));
20
21
                int currentHeight = *heights.rbegin();
                if (currentHeight != prevHeight) {
                    result.push_back({point.first, currentHeight});
                    prevHeight = currentHeight;
            }
            return result;
```

```
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```

9. Reverse Pairs.

```
class Solution {
public:
    int reversePairs(vector<int>& nums) {
        return mergeSort(nums, 0, nums.size() - 1);
    }

int mergeSort(vector<int>& nums, int left, int right) {
        if (left >= right) return 0;
        int mid = left + (right - left) / 2;
        int count = mergeSort(nums, left, mid) + mergeSort(nums, mid + 1, right);

        int j = mid + 1;
        for (int i = left; i <= mid; i++) {
            while (j <= right && nums[i] > 2LL * nums[j]) j++;
            count += (j - mid - 1);
        }

        merge(nums, left, mid, right);
        return count;
    }

    void merge(vector<int>& nums, int left, int mid, int right) {
        vector<int> temp;
        int i = left, j = mid + 1;

        while (i <= mid && j <= right) {
            if (nums[i] <= nums[j]) temp.push_back(nums[i++]);
            else temp.push_back(nums[j++]);
        }

        while (i <= mid) temp.push_back(nums[i++]);
        while (j <= right) temp.push_back(nums[j++]);
        for (int i = left; i <= right; i++) nums[i] = temp[i - left];
    }
};</pre>
```

10.Longest Increasing Subsequence II.

```
1 Accepted C++ S 13 ms 27.7 MB + Notes
```