MUSTAQIL ISHLASH UCHUN MASALALAR YECHIMLARI

1-masala. Yechim (prefix sum + map)

```
#include <bits/stdc++.h>
using namespace std;

int main() {
    int n;
    cin >> n;
    vector<long long> a(n);
    for (int i = 0; i < n; i++) cin >> a[i];

    unordered_map<long long, int> first;
    long long sum = 0;
    int ans = 0;
    first[0] = -1;

    for (int i = 0; i < n; i++) {
        sum += a[i];
        if (first.count(sum))
            ans = max(ans, i - first[sum]);
        else
            first[sum] = i;
    }
    cout << ans;
    return 0;
}
```

2-masala. Yechim (sort + two pointers)

```
#include <bits/stdc++.h>
using namespace std;

int main() {
    int n;
    long long S;
    cin >> n >> S;
    vector<long long> a(n);
    for (int i = 0; i < n; i++) cin >> a[i];

    sort(a.begin(), a.end());
    for (int i = 0; i < n; i++) {
        int l = i + 1, r = n - 1;
        while (l < r) {
            long long sum = a[i] + a[l] + a[r];
```

```
            if (sum == S) {
                cout << "YES";
                return 0;
            }
            if (sum < S) l++;
            else r--;
        }
    }
    cout << "NO";
    return 0;
}
```

3-masala. Yechim (binary search + greedy)

```
#include <bits/stdc++.h>
using namespace std;

bool canSplit(const vector<long long>& a, int K, long
long mx) {
    long long cur = 0;
    int cnt = 1;
    for (long long x : a) {
        if (x > mx) return false;
        if (cur + x <= mx) cur += x;
        else {
            cnt++;
            cur = x;
        }
    }
    return cnt <= K;
}

int main() {
    int n, K;
    cin >> n >> K;
    vector<long long> a(n);
    for (int i = 0; i < n; i++) cin >> a[i];

    long long l = *max_element(a.begin(), a.end());
    long long r = accumulate(a.begin(), a.end(), 0LL);
    long long ans = r;

    while (l <= r) {
        long long mid = (l + r) / 2;
        if (canSplit(a, K, mid)) {
            ans = mid;
```

```
            r = mid - 1;
        } else {
            l = mid + 1;
        }
    }
    cout << ans;
    return 0;
}
```

4-masala Yechim (chiziqli tahlil)

```
#include <bits/stdc++.h>
using namespace std;

int main() {
    int n;
    cin >> n;
    vector<int> a(n);
    for (int i = 0; i < n; i++) cin >> a[i];

    int ans = 1, i = 0;
    while (i < n - 1) {
        int j = i;
        while (j + 1 < n && a[j + 1] > a[j]) j++;
        int k = j;
        while (k + 1 < n && a[k + 1] < a[k]) k++;
        if (j > i && k > j)
            ans = max(ans, k - i + 1);
        i = max(k, i + 1);
    }
    cout << ans;
    return 0;
}
```

5-masala. Yechim (sort + prefix)

```
#include <bits/stdc++.h>
using namespace std;

int main() {
    int n, K;
    cin >> n >> K;
    vector<long long> a(n);
    for (int i = 0; i < n; i++) cin >> a[i];

    sort(a.begin(), a.end());
```

```
    long long mx = a[n - 1];
    long long sum = 0;
    for (int i = n - 2; i >= 0 && K > 0; i--, K--) {
        sum += a[i];
    }
    cout << sum;
    return 0;
}
```

6-masala. Yechim (two pointers, aylana)

```
#include <bits/stdc++.h>
using namespace std;

int main() {
    int n;
    cin >> n;
    vector<long long> a(2 * n);
    for (int i = 0; i < n; i++) {
        cin >> a[i];
        a[i + n] = a[i];
    }

    long long total = accumulate(a.begin(), a.begin() +
n, 0LL);
    long long half = total / 2;
    long long cur = 0;
    int l = 0;
    long long ans = LLONG_MAX;

    for (int r = 0; r < 2 * n; r++) {
        cur += a[r];
        while (cur > half) {
            ans = min(ans, llabs(total - 2 * cur));
            cur -= a[l];
            l++;
        }
        ans = min(ans, llabs(total - 2 * cur));
    }
    cout << ans;
    return 0;
}
```

7-masala. Yechim (sliding window)

```
#include <bits/stdc++.h>
```

```
using namespace std;

int main() {
    int n;
    long long K;
    cin >> n >> K;
    vector<long long> a(n);
    for (int i = 0; i < n; i++) cin >> a[i];

    long long sum = 0;
    int l = 0, ans = 0;
    for (int r = 0; r < n; r++) {
        sum += a[r];
        while (sum > K) {
            sum -= a[l];
            l++;
        }
        ans = max(ans, r - l + 1);
    }
    cout << ans;
    return 0;
}
```

8-masala. Yechim (DP)

```
#include <bits/stdc++.h>
using namespace std;

int main() {
    int n;
    cin >> n;
    vector<long long> a(n), b(n);
    for (int i = 0; i < n; i++) cin >> a[i];
    for (int i = 0; i < n; i++) cin >> b[i];

    long long dpA = a[0], dpB = b[0];
    for (int i = 1; i < n; i++) {
        long long newA = b[i] + dpB;
        long long newB = a[i] + dpA;
        dpA = newA;
        dpB = newB;
    }
    cout << max(dpA, dpB);
    return 0;
}
```

9-masala. Yechim (LIS g‘oyasi)

```
#include <bits/stdc++.h>
using namespace std;

int main() {
    int n;
    cin >> n;
    vector<int> a(n), lis;
    for (int i = 0; i < n; i++) cin >> a[i];

    for (int x : a) {
        auto it = lower_bound(lis.begin(), lis.end(),
x);
        if (it == lis.end()) lis.push_back(x);
        else *it = x;
    }
    cout << n - lis.size();
    return 0;
}
```

10-masala. Yechim (stack)

```
#include <bits/stdc++.h>
using namespace std;

int main() {
    string s;
    cin >> s;
    stack<int> st;
    st.push(-1);
    int ans = 0;

    for (int i = 0; i < (int)s.size(); i++) {
        if (s[i] == '(') st.push(i);
        else {
            st.pop();
            if (st.empty()) st.push(i);
            else ans = max(ans, i - st.top());
        }
    }
    cout << ans;
    return 0;
}
```