

Олимпиада «Ломоносов» по информатике
2025-2026 учебный год. Заключительный этап
Работа участника с id заявки 1590410, логином inf26f_332

Сводный итог по всем задачам в проверяющей системе

RunID	Time	Username	Prob	Lang	Result	Tests	Score
113	1:57:22	inf26f_332	1	g++	Partial solution	22	95
71	1:24:02	inf26f_332	5	g++	Partial solution	85	82
36	0:54:58	inf26f_332	4	g++	OK	103	100
19	0:44:27	inf26f_332	3	g++	OK	23	100
5	0:16:54	inf26f_332	2	g++	Partial solution	16	26

403 (четыреста три) технических балла
67 (шестьдесят семь) итоговых баллов



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Посылка по задаче 1

```
[1] #include <iostream>
[2] #include <vector>
[3] #include <set>
[4] #include <cmath>
[5] #include <algorithm>
[6] #include <map>
[7] #include <string>
[8]
[9]
[10]
[11] using namespace std;
[12]
[13] int main() {
[14]     int n;
[15]     cin >> n;
[16]     vector <char> alf = {'a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', 'j', 'k', 'l', 'm', 'n', 'o', 'p', 'q', 'r', '
[17]     vector <string> s(n);
[18]     for (int i = 0; i < n; i++) {
[19]         string str;
[20]         cin >> str;
[21]         int j = 0;
[22]         int cnt = 1;
[23]         int sum = 0;
[24]
[25]         while (j < str.size()) {
[26]             if (str[j] == 'n') {
[27]                 s[i].push_back('a');
[28]                 j += 2;
[29]             } else {
[30]                 if (str[j] == 'x') {
[31]                     sum += 10;
[32]                 } else if (str[j] == 'v') {
[33]                     sum += 5;
[34]                 } else if (str[j] == 'i') {
[35]                     if (j > 0 && str[j - 1] == 'i') {
[36]                         cnt++;
[37]                     } else {
[38]                         cnt = 1;
[39]                     }
[40]                     if (j + 1 == str.size() || str[j + 1] == '.') {
[41]                         sum += cnt;
[42]                         cnt = 1;
[43]                     } else if (str[j + 1] == 'v' || str[j + 1] == 'x'){
[44]                         sum -= cnt;
[45]                         cnt = 1;
[46]                     }
[47]                 } else if (str[j] == '.'){
[48]                     s[i] += alf[sum];
[49]                     sum = 0;
[50]                     cnt = 1;
[51]                 }
[52]                 if (j + 1 == str.size()) {
[53]                     s[i] += alf[sum];
[54]                     sum = 0;
[55]                     cnt = 1;
[56]                 }
[57]                 j++;
[58]             }
[59]         }
[60]
[61]     }
[62]     string smin = s[0];
[63]     string smax = s[0];
[64]     for (int i = 0; i < n; i++) {
[65]         smin = min(smin, s[i]);
[66]         smax = max(smax, s[i]);
[67]     }
[68]     cout << smax << endl << smin;
[69] }
```

Посылка по задаче 2

```
[1] #include <iostream>
[2] #include <vector>
[3] #include <set>
[4] #include <cmath>
[5] #include <algorithm>
[6] #include <map>
[7] #include <string>
[8]
[9]
[10]
[11] using namespace std;
[12] vector <bool> p(60002, true);
[13] void prost() {
[14]     p[1] = false;
[15]     p[0] = false;
[16]     for (int i = 2; i < p.size(); i++) {
[17]         if (p[i] == true) {
[18]             for (int j = i * 2; j < p.size(); j += i) {
[19]                 p[j] = false;
[20]             }
[21]         }
[22]     }
[23] }
[24] int main() {
[25]     prost();
[26]     int n;
[27]     cin >> n;
[28]     vector <int> a(n);
[29]     for (int i = 0; i < n; i++) {
[30]         cin >> a[i];
[31]     }
[32]     int cnt = 0;
[33]     set <int> st;
[34]     for (int i = 0; i < n; i++) {
[35]         int x = a[i];
[36]         if (p[x] == true) {
[37]             int f = 0;
[38]             for (int j = 2; j < x; j++) {
[39]                 int y = x;
[40]                 int k = 1;
[41]                 while (y > 0) {
[42]                     y -= k;
[43]                     k = k * j;
[44]                 }
[45]                 if (y == 0 && k >= j * j) {
[46]                     f = 1;
[47]                     break;
[48]                 }
[49]             }
[50]             if (f == 1) {
[51]                 st.insert(x);
[52]             }
[53]         }
[54]     }
[55]     cout << st.size() << endl;
[56]
[57]
[58] }
```

Посылка по задаче 3

```
[1] #include <iostream>
[2] #include <vector>
[3] #include <set>
[4] #include <cmath>
[5] #include <algorithm>
[6] #include <map>
[7] #include <string>
[8]
[9]
[10]
[11] using namespace std;
[12]
[13] int main() {
[14]     int n;
[15]     int i, j;
[16]     cin >> n >> i >> j;
[17]     int sp = min({i, j, n - i + 1, n - j + 1});
[18]     int x = 0;
[19]     int y = n;
[20]     if (n % 2 == 1) {
[21]         if (i == (n + 1) / 2 && j == (n + 1) / 2) {
[22]             cout << n * n - 1;
[23]             return 0;
[24]         }
[25]     }
[26]     for (int z = 1; z < sp; z++) {
[27]         x += y * 4 - 4;
[28]         y -= 2;
[29]     }
[30]     x--;
[31]     if (j == sp) {
[32]         cout << x + i - sp + 1;
[33]         return 0;
[34]     } else {
[35]         x += n - (sp - 1) * 2;
[36]     }
[37]     x--;
[38]
[39]
[40]     if (i == n - sp + 1) {
[41]         cout << x + j - sp + 1;
[42]         return 0;
[43]     } else {
[44]         x += n - (sp - 1) * 2;
[45]     }
[46]
[47]     if (j == n - sp + 1) {
[48]         cout << x + n - i - sp + 1;
[49]         return 0;
[50]     } else {
[51]         x += n - (sp - 1) * 2;
[52]     }
[53]     x--;
[54]
[55]     if (i == sp) {
[56]         cout << x + n - j - sp + 1;
[57]         return 0;
[58]     }
[59]
[60]
[61]
[62]
[63] }
```

Посылка по задаче 4

```
[1] #include <iostream>
[2] #include <vector>
[3] #include <set>
[4] #include <cmath>
[5] #include <algorithm>
[6] #include <map>
[7] #include <string>
[8]
[9]
[10]
[11] using namespace std;
[12]
[13] int main() {
[14]     int n;
[15]     cin >> n;
[16]     vector <int> a(n);
[17]     for (int i = 0; i < n; i++) {
[18]         cin >> a[i];
[19]     }
[20]     vector <int> dp(n, 1);
[21]     for (int i = n - 2; i >= 0; i--) {
[22]         for (int j = i + 1; j < n; j++) {
[23]             if (a[j] >= a[i]) {
[24]                 dp[i] = max(dp[i], dp[j] + 1);
[25]             }
[26]         }
[27]     }
[28]     int ans = 0;
[29]     for (int i = 0; i < n; i++) {
[30]         ans = max(ans, dp[i]);
[31]     }
[32]     cout << n - ans;
[33]
[34]
[35]
[36]
[37] }
```

Посылка по задаче 5

```
[1] #include <iostream>
[2] #include <vector>
[3] #include <set>
[4] #include <cmath>
[5] #include <algorithm>
[6] #include <map>
[7] #include <string>
[8]
[9]
[10]
[11] using namespace std;
[12] vector< vector <int>> g;
[13] vector <int> popsort;
[14] vector <pair <int, int>> tout;
[15] vector <int> tin;
[16] vector <int> used;
[17] int t = 0;
[18] void dfs(int v) {
[19]     tin[v] = t;
[20]     t++;
[21]     used[v] = 1;
[22]     for (auto to: g[v]) {
[23]         if (used[to] == 0) {
[24]             dfs(to);
[25]         }
[26]     }
[27]     tout[v].first = t;
[28]     tout[v].second = v;
[29]     t++;
[30] }
[31] int main() {
[32]     int n;
[33]     cin >> n;
[34]     vector <int> x(n);
[35]     vector <int> y(n);
[36]     vector <int> h(n);
[37]     tin.resize(n);
[38]     tout.resize(n);
[39]     used.resize(n);
[40]     g.resize(n);
[41]     for (int i = 0; i < n; i++) {
[42]         cin >> x[i];
[43]         cin >> y[i];
[44]         cin >> h[i];
[45]     }
[46]     for (int i = 0; i < n; i++) {
[47]         for (int j = i + 1; j < n; j++) {
[48]             if (x[i] > x[j] && y[i] > y[j] && h[i] < h[j]) {
[49]                 g[j].push_back(i);
[50]             }
[51]             if (x[i] < x[j] && y[i] < y[j] && h[i] > h[j]) {
[52]                 g[i].push_back(j);
[53]             }
[54]         }
[55]     }
[56]     vector <int> rebro(n);
[57]     for (int i = 0; i < n; i++) {
[58]         for (auto j: g[i]) {
[59]             rebro[j] = 1;
[60]         }
[61]     }
[62]     for (int i = 0; i < n; i++) {
[63]         if (rebro[i] == 0) {
[64]             dfs(i);
[65]         }
[66]     }
[67]     sort(tout.begin(), tout.end());
[68]     vector <int> dp(n, 1);
[69]     for (int i = n - 2; i >= 0; i--) {
[70]         for (auto j: g[i]) {
[71]             dp[i] = max(dp[i], dp[j] + 1);
[72]         }
[73]     }
[74]     cout << dp[0];
[75]
[76]
[77]
[78] }
```

Посылка по задаче 6

Посылок по задаче 6 участником не было отправлено.