

Олимпиада «Ломоносов» по информатике
2025-2026 учебный год. Заключительный этап
Работа участника с id заявки 1599669, логином inf26f_106
Сводный итог по всем задачам в проверяющей системе

Run ID	Time	User name	Problem	Language	Result	Tests	Score
425	1:43:12	inf26f_106	6	py3	OK	21	100
257	1:07:37	inf26f_106	2	py3	OK	53	100
164	0:52:30	inf26f_106	3	g++	Partial solution	8	25
98	0:38:39	inf26f_106	5	g++	Partial solution	75	72
75	0:33:37	inf26f_106	4	g++	OK	103	100
39	0:25:31	inf26f_106	1	py3	Partial solution	18	75

472 (четырееста семьдесят два) технических балла
67 (шестьдесят семь) итоговых баллов



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Посылка по задаче 1

```
[1]
[2] c = {"N": 0, "I": 1, "V": 5, "X": 10, "L": 50}
[3]
[4] def fk(s):
[5]     a = []
[6]     now = s[0]
[7]     cnt = 1
[8]     for i in range(1, len(s)):
[9]         if s[i] == now:
[10]             cnt += 1
[11]         else:
[12]             a.append([now, cnt * c[now]])
[13]             now = s[i]
[14]             cnt = 1
[15]     a.append([now, cnt * c[now]])
[16]     b = [[a[0]]]
[17]     for i in range(1, len(a)):
[18]         #print(c[b[-1][-1][0]], c[a[i][0]])
[19]         if c[b[-1][-1][0]] < c[a[i][0]]:
[20]             b[-1].append(a[i])
[21]         else:
[22]             b.append([a[i]])
[23]
[24]     #print(s)
[25]     #print(a)
[26]     #print(b)
[27]
[28]     ans = 0
[29]     for e in b:
[30]         for i in range(len(e) - 1):
[31]             ans -= e[i][1]
[32]             ans += e[-1][1]
[33]
[34]     return ans
[35]
[36] x = "ABCDEFGHIGKLMNOPQRSTUVWXYZ"
[37] x = x + x.lower()
[38]
[39] def tf(n):
[40]     a = []
[41]     if n == 0:
[42]         a.append(0)
[43]     while n > 0:
[44]         a.append(n % 52)
[45]         n = n // 52
[46]     a.reverse()
[47]     #print(a)
[48]     ans = ""
[49]     for e in a:
[50]         ans += x[e]
[51]     return ans
[52]
[53] n = int(input())
[54] aa = [input() for i in range(n)]
[55] a = []
[56] for e in aa:
[57]     e = e.split('.')
[58]     e.reverse()
[59]     z = 0
[60]     for j in range(len(e)):
[61]         z += fk(e[j]) * (52 ** j)
[62]     a.append(z)
[63] #print(a)
[64] #print("-----")
[65] a.sort()
[66] print(tf(a[0]),tf(a[-1]), sep="\n")
```

Посылка по задаче 2

```
[1] '''
[2] def prime(n):
[3]     i = 2
[4]     while i * i <= n:
[5]         if n % i == 0:
[6]             return False
[7]         i += 1
[8]     return True
[9] def fh(b, k):
[10]     ans = 0
[11]     for i in range(k):
[12]         ans += b ** i
[13]     return ans
[14] n = 160001
[15] a = []
[16] for b in range(2, n + 1):
[17]     k = 3
[18]     now = fh(b, k)
[19]     while now <= n:
[20]         if prime(now): a.append(now)
[21]         k += 1
[22]         now = fh(b, k)
[23] a = sorted(list(set(a)))
[24] print(len(a))
[25] print(a)
[26] print(len(a))
[27] '''
[28] p = [7, 13, 31, 43, 73, 127, 157, 211, 241, 307,
[29] 421, 463, 601, 757, 1093, 1123, 1483, 1723, 2551,
[30] 2801, 2971, 3307, 3541, 3907, 4423, 4831, 5113,
[31] 5701, 6007, 6163, 6481, 8011, 8191, 9901, 10303,
[32] 11131, 12211, 12433, 13807, 14281, 17293, 19183,
[33] 19531, 20023, 20593, 21757, 22621, 22651, 23563,
[34] 24181, 26083, 26407, 27061, 28057, 28393, 30103,
[35] 30941, 31153, 35533, 35911, 37057, 37831, 41413,
[36] 42643, 43891, 46441, 47743, 53593, 55933, 55987,
[37] 60271, 60763, 71023, 74257, 77563, 78121, 82657,
[38] 83233, 84391, 86143, 88741, 95791, 98911, 108571,
[39] 110557, 113233, 117307, 118681, 121453, 123553,
[40] 127807, 131071, 136531, 143263, 145543, 147073,
[41] 154057, 156421, 158803]
[42] n = int(input())
[43] aa = list(map(int, input().split()))
[44] cnt = {
[45] }
[46] a = []
[47] for e in aa:
[48]     if e in p:
[49]         a.append(e)
[50] for e in a:
[51]     cnt[e] = cnt.get(e, 0) + 1
[52] b = []
[53] for e in cnt:
[54]     b.append([e, cnt[e]])
```

```
[55] #print(a)
[56] #print(b)
[57] b.sort(key=lambda x: [-x[1], -x[0]])
[58] # print(b)
[59] if len(b) == 0:
[60]     print(0)
[61]     exit(0)
[62] print(b[0][0])
```

Посылка по задаче 3

```
[1] #include <bits/stdc++.h>
[2] using namespace std;
[3] #define int long long
[4]
[5] signed main() {
[6]     ios::sync_with_stdio(0);
[7]     cin.tie(0);
[8]     cout.tie(0);
[9]
[10]    int n, i, j;
[11]    cin >> n >> j >> i;
[12]    i -= 1;
[13]    j -= 1;
[14]    int ans = 0;
[15]    for (int x = 0; x < min(i, j); x++) {
[16]        ans += 4 * (n - 1 - x);
[17]    }
[18]    int ni = min(i, j);
[19]    int nj = min(i, j);
[20]    while ((ni != i || nj != j) && ni < (n - 1 - min(i, j))) {
[21]        ni += 1;
[22]        ans += 1;
[23]    }
[24]    while ((ni != i || nj != j) && nj < (n - 1 - min(i, j))) {
[25]        nj += 1;
[26]        ans += 1;
[27]    }
[28]    while ((ni != i || nj != j) && ni > (min(i, j))) {
[29]        ni -= 1;
[30]        ans += 1;
[31]    }
[32]    while ((ni != i || nj != j)) {
[33]        nj -= 1;
[34]        ans += 1;
[35]    }
[36]    cout << ans << endl;
[37] }
```

Посылка по задаче 4

```
[1] #include <bits/stdc++.h>
[2] using namespace std;
[3] #define int long long
[4]
[5] signed main() {
[6]     ios::sync_with_stdio(0);
[7]     cin.tie(0);
[8]     cout.tie(0);
[9]
[10]    int n;
[11]    cin >> n;
[12]    int ans = 0;
[13]    vector<int> a(n);
[14]    for (int i = 0; i < n; i++) cin >> a[i];
[15]
[16]    vector<int> res(n, 1);
[17]    for (int i = 0; i < n; i++) {
[18]        for (int j = 0; j < i ; j++) {
[19]            if (a[j] >= a[i]) {
[20]                res[i] = max(res[i], res[j] + 1);
[21]                ans = max(ans, res[i]);
[22]            }
[23]        }
[24]    }
[25]
[26]    cout << n - ans << endl;
[27] }
```

Посылка по задаче 5

```
[1] #include <bits/stdc++.h>
[2] using namespace std;
[3] #define int long long
[4]
[5] signed main() {
[6]     ios::sync_with_stdio(0);
[7]     cin.tie(0);
[8]     cout.tie(0);
[9]
[10]    int n;
[11]    cin >> n;
[12]    int ans = 0;
[13]    vector<vector<int>> a(n, vector<int>(3));
[14]    for (int i = 0; i < n; i++) cin >> a[i][0] >> a[i][1] >> a[i][2];
[15]    sort(a.rbegin(), a.rend());
[16]
[17]    vector<int> res(n, 1);
[18]    for (int i = 0; i < n; i++) {
[19]        for (int j = 0; j < i; j++) {
[20]            //cout << a[i][0] << " " << a[i][1] << " " << a[i][2] << " " << a[j][0] << " " << a[j][1] << " " << a[j][2] << endl;
[21]            if (a[i][0] < a[j][0] && a[i][1] < a[j][1] && a[i][2] > a[j][2]) {
[22]                res[i] = max(res[i], res[j] + 1);
[23]                ans = max(ans, res[i]);
[24]            }
[25]        }
[26]    }
[27]
[28]    cout << ans << endl;
[29] }
```

Посылка по задаче 6

```
[1] ans = 0
[2]
[3] def tc(n, i, j, k, m, col, r, c):
[4]     ni = i
[5]     nj = j
[6]     cnt = 0
[7]     while ni < r and nj < c and (n[ni][nj] == 0 or col == 0):
[8]         cnt += 1
[9]         if cnt >= k:
[10]             break
[11]         if m == 0:
[12]             ni += 1
[13]         else:
[14]             nj += 1
[15]     if cnt != k:
[16]         return False
[17]     ni = i
[18]     nj = j
[19]     cnt = 0
[20]     while ni < r and nj < c:
[21]         n[ni][nj] = col
[22]         cnt += 1
[23]         if cnt >= k:
[24]             break
[25]         if m == 0:
[26]             ni += 1
[27]         else:
[28]             nj += 1
[29]     return True
[30]
[31]
[32]
[33] def gen(n, i, j, n1,n2,n3,n4,r,c):
[34]     # print(i, j, n1,n2,n3,n4)
[35]     global ans
[36]     if j == c:
[37]         gen(n, i + 1, 0, n1, n2, n3, n4, r, c)
[38]         return
[39]     if i == r:
[40]         ...
[41]         for e in n:
[42]             print(*e, sep=" ")
[43]             print("-----")
[44]             ...
[45]         ans += 1
[46]         return
[47]     if n[i][j] == 0:
[48]         if n1:
[49]             if tc(n, i, j, 1, 0, 1, r, c):
[50]                 gen(n, i, j + 1, n1-1,n2,n3,n4, r, c)
[51]                 tc(n, i, j, 1, 0, 0, r, c)
[52]         if n2:
[53]             if tc(n, i, j, 2, 0, 2, r, c):
[54]                 gen(n, i, j + 1, n1,n2-1,n3,n4, r, c)
[55]                 tc(n, i, j, 2, 0, 0, r, c)
[56]             if tc(n, i, j, 2, 1, 2, r, c):
[57]                 gen(n, i, j + 1, n1,n2-1,n3,n4, r, c)
[58]                 tc(n, i, j, 2, 1, 0, r, c)
[59]
[60]         if n3:
[61]             if tc(n, i, j, 3, 0, 3, r, c):
[62]                 gen(n, i, j + 1, n1,n2,n3-1,n4, r, c)
[63]                 tc(n, i, j, 3, 0, 0, r, c)
[64]             if tc(n, i, j, 3, 1, 3, r, c):
[65]                 gen(n, i, j + 1, n1,n2,n3-1,n4, r, c)
[66]                 tc(n, i, j, 3, 1, 0, r, c)
[67]         if n4:
[68]             if tc(n, i, j, 4, 0, 4, r, c):
[69]                 gen(n, i, j + 1, n1,n2,n3,n4-1, r, c)
[70]                 tc(n, i, j, 4, 0, 0, r, c)
[71]             if tc(n, i, j, 4, 1, 4, r, c):
[72]                 gen(n, i, j + 1, n1,n2,n3,n4-1, r, c)
[73]                 tc(n, i, j, 4, 1, 0, r, c)
[74]         else:
[75]             gen(n, i, j + 1, n1,n2,n3,n4, r, c)
[76]
[77] n1,n2,n3,n4,r,c = map(int, input().split())
[78] f = [input() for _ in range(r)]
[79] n = [[0 if f[i][j] == '#' else 7 for j in range(c)] for i in range(r)]
[80] gen(n, 0, 0, n1,n2,n3,n4, r, c)
[81] print(ans)
```

Посылка по задаче 7

Посылок по задаче 7 участником не было отправлено.