Probleme de eficiență rezolvate – pbinfo.ro

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Sesiunea iunie-iulie 2024

```cpp
int x, y, scale_max, contor, contor_max,
    ok;
int main() {
    f >> x;
    contor = 1;
    while (f >> y) {
        if(y == x + 1) {
            ++contor;
            ok = 1;
        } else {
            if (contor > contor_max) {
                contor_max = contor;
                scale_max = x;
            }
            contor = 1;
        }
        x = y;
    }

    if(y == x + 1) {
        ++contor;
        ok = 1;
    }
    if (contor > contor_max) {
        contor_max = contor;
        scale_max = x;
    }

    if (ok)
        for (int i = contor_max - 1; i >=
0; i--)
            cout << scale_max - i << ' ';
    else cout << "nu exista";

    return 0;
}
```

Simulare martie 2024

```cpp
int x, fr[1001], ok = 1;
int main() {
    while (f >> x) fr[x]++;

    for (int i = 1; i < 1001; i++)
        if (((i % 2 != fr[i] % 2) || fr[i]
> i) && fr[i])
            ok = 0;

    if (ok) cout << "DA";
    else cout << "NU";

    return 0;
}
```

Sesiunea specială, mai 2024

```cpp
int cif_max, prm, ult, poz_prm, poz_ult,
    x, i;
int main() {
    while (f >> x) {
        int first = x / 10;
        int second = x % 10;
        if (first < second)
            first = second;

        if (cif_max == first) {
            poz_ult = i;
            ult = x;
        } else if (cif_max < first) {
            cif_max = first;
            poz_prm = i, poz_ult = i;
            prm = x, ult = x;
        }
        ++i;
    }

    if (poz_prm != poz_ult)
        cout << prm << ' ' << ult;
    else cout << "nu exista";
    return 0;
}
```

Sesiunea august 2023

```cpp
int a[101], b[101], pa, pb, contor, x;
int main() {
    f >> pa >> pb;
    for (int i = 0; i < pa; i++) {
        f >> x;
        a[x]++;
    }
    for (int i = 0; i < pb; i++) {
        f >> x;
        b[x]++;
    }

    for (int i = 0; i < 100; i++) {
        int mini;
        if (a[i] < b[i])
            mini = a[i];
        else mini = b[i];

        contor += mini;
    }

    cout << contor;
    return 0;
}
```

Sesiunea iunie-iulie 2023

```cpp
int fr_suf[100], fr_pre[100], x, contor;
int main() {
    while (f >> x) {
        if (x > 99) {
            fr_suf[x%100]++;
            while (x > 99)
                x /= 10;
            fr_pre[x]++;
        }
    }

    for (int i = 10; i < 100; i++) {
        if (fr_suf[i] == fr_pre[i] &&
fr_suf[i])
            ++contor;
    }

    cout << contor;
    return 0;
}
```

Sesiunea specială, mai 2022

```cpp
int x, sec=1, secmax=0, last;
int main() {
    f >> x;
    last = x;
    while (f >> x) {
        if (x == last) {
            sec++;
        } else {
            if (sec > secmax) {
                secmax = sec;
            }
            sec = 1;
            last = x;
        }
    }
    if (sec > secmax) {
        secmax = sec;
    }
    cout << secmax;
    return 0;
}
```

Simulare martie 2023

```cpp
int x, maxim, i = 1, last;
int main() {
    f >> x;
    maxim = x, last = x;
    cout << i << ' ';
    while (f >> x) {
        ++i;
        if (x >= maxim && x > last) {
            cout << i << ' ';
            maxim = x;
        }
        last = x;
    }
    return 0;
}
```

Sesiunea august 2022

```cpp
int x, secmax=0, nrsec=0, sec=1, par;
int main() {
    f >> x;
    par = x % 2;
    while (f >> x) {
        if (x % 2 == par) {
            sec++;
        } else {
            if (sec > secmax) {
                secmax = sec;
                nrsec = 1;
            } else if (sec == secmax) {
                nrsec++;
            }
            par = x % 2;
            sec = 1;
        }
    }
    if (sec > secmax) {
        secmax = sec;
        nrsec = 1;
    } else if (sec == secmax) {
        nrsec++;
    }
    cout << nrsec << ' ' << secmax;
    return 0;
}
```

Sesiunea specială, mai 2023

```cpp
int min_curr, max_curr, min_prev, max_prev;
int x, poz = 1, min_poz = -1, max_poz =
    -1, ok = 1;
int main() {
    if (!(f >> x)) {
        cout << "nu exista";
        return 0;
    }
    min_prev = x, max_prev = x;
    min_curr = x, max_curr = x;

    while (f >> x) {
        ++poz;

        if (x < min_curr) min_curr = x;
        if (x > max_curr) max_curr = x;

        if (min_prev == min_curr &&
max_prev == max_curr) {
            if (ok)
                ok = 0, min_poz = poz;
            max_poz = poz;
        }

        min_prev = min_curr;
        max_prev = max_curr;
    }

    if (min_poz == -1) {
        cout << "nu exista";
    } else {
        cout << min_poz << ' ' << max_poz;
    }

    return 0;
}
```

Sesiune iunie-iulie 2022

```cpp
int x, y, z, contor=0, last=0;
int main() {
    f >> x >> y;
    while (f >> z) {
        if (z >= x && z <= y && z != last)
    {
            contor++;
            last = z;
        }
    }
    cout << contor;
    return 0;
}
```

Simulare 2022

```cpp
int n, p, c3=0, c5=0, put3=3, put5=5;
int main() {
    cin >> n;
    while (put3 <= n) {
        c3 += n / put3;
        put3 *= 3;
    }
    while (put5 <= n) {
        c5 += n / put5;
        put5 *= 5;
    }
    if (c3 % 2) c3 = (c3 + 1) / 2;
    else c3 /= 2;

    if (c3 > c5) p = c5;
    else p = c3;

    cout << p;
    return 0;
}
```

Sesiune iunie-iulie 2021

```cpp
int comp, x, p=1, last, rez1, rez2;
int main() {
    f >> comp;
    int aux = comp;
    while (aux > 9) {
        p *= 10;
        aux /= 10;
    }
    f >> x;
    last = x;
    while (f >> x) {
        if (x % p == comp && last % p ==
    comp) {
            rez1 = last;
            rez2 = x;
        }
        last = x;
    }
    cout << rez1 << ' ' << rez2;
    return 0;
}
```

Sesiune august-septembrie 2021

```cpp
int na, nb, perechi=0, x, a[100]={0},
    b[100]={0};
int ca0=0, cb0=0;
int main() {
    cin >> na >> nb;
    for (int i=0; i < na; i++) {
        cin >> x;
        if (x % 100 == 0) ca0++;
        else {
            int inv = (x%10)*10 +
    (x/10)%10;
            if (inv > x % 100) a[inv]++;
            else a[x % 100]++;
        }
    }
    for (int i=0; i < nb; i++) {
        cin >> x;
        if (x % 100 == 0) cb0++;
        else {
            int inv = (x%10)*10 +
    (x/10)%10;
            if (inv > x % 100) b[inv]++;
            else b[x % 100]++;
        }
    }
    for (int i=10; i < 100; i++) {
        perechi += a[i] * b[i];
    }
    perechi += ca0 * cb0;
    cout << perechi;
    return 0;
}
```

Subiecte antrenament, 2021, testul 12

```cpp
int erst, x, contor=0;
int main() {
    f >> erst;
    while (f >> x) {
        if (erst <= x) {
            contor++;
        }
    }
    cout << contor + 1;
    return 0;
}
```

Subiecte antrenament, 2021, testul 11

```cpp
int x, y, n;
int main() {
    cin >> x >> y;
    cout << y << ' ' << x << ' ';
    n = (y - x) / 2;
    for (int i = n - 1; i > 0; i--) {
        y = x;
        x -= 2 * i;
        cout << x << ' ';
    }

    return 0;
}
```

Subiecte antrenament, 2021, testul 10

```cpp
int n=0, i=0, comp, x;
int main() {
    f >> comp;
    while (f >> x) {
        n++;
        if (x >= comp) {
            i++;
        }
    }
    cout << n - i;

    return 0;
}
```

Subiecte antrenament, 2021, testul 9

```cpp
int x, fr[10] = {0};
int main() {
    // Assuming 'num' is an ifstream
    ifstream num("numere.txt");
    while (num >> x) {
        while (x > 0) {
            fr[x % 10]++;
            x /= 10;
        }
    }
    for (int i = 9; i >= 0; i--) {
        while (fr[i] > 0) {
            cout << i;
            fr[i]--;
        }
    }

    return 0;
}
```

Subiecte antrenament, 2021, testul 8

```cpp
int x, ult=0, penult=0;
int main() {
    while (f >> x) {
        if (x % 2 != 0) {
            if (ult == 0) {
                ult = x;
            } else if (penult == 0) {
                penult = x;
            } else {
                penult = ult;
                ult = x;
            }
        }
    }
    if (penult == 0 || ult == 0) {
        cout << "nu exista";
    } else {
        cout << penult << ' ' << ult;
    }

    return 0;
}
```

Subiecte antrenament, 2021, testul 7

```cpp
int fr[5], ok = 0, x;
int main() {
    while (f >> x)
        if(!(x%2)) {
            fr[x/2]++;
            ok = 1;
        }
    if (ok) {
        for (int i = 0; i < 5; i++) {
            while (fr[i]) {
                cout << 2 * i << ' ';
                fr[i]--;
            }
        }
    }
    else cout << "nu exista";

    return 0;
}
```

Subiecte antrenament, 2021, testul 6

```cpp
int x, i = 0, j = 0, k = 0, cresc = 0,
    maximus;
int main()
{
    while (bac >> x) {
        cresc++;
        if (x < 0)
            if (!i) i = cresc;
            else if (!j) j = cresc;
            else k = cresc;
    }

    if (k - i - 1 > j - 1)
        maximus = k - i - 1;
    else maximus = j - 1;
    if (maximus < cresc - j)
        maximus = cresc - j;
    cout << maximus;
    return 0;
}
```

Subiecte antrenament, 2021, testul 5

```cpp
int n, x, maxim;
int main() {
    f >> n;
    for (int i = 1; i <= n; i++) {
        f >> x;
        if (x > maxim)
            maxim = x;
        cout << maxim << ' ';
    }

    return 0;
}
```

Subiecte antrenament, 2021, testul 3

```cpp
int x, fr[10], poz[10], i = 0, maxim = 0;
int main() {
    while (f >> x) {
        i++;
        fr[(x/10)%10]++;
        poz[(x/10)%10] = i;
    }
    for (int i = 0; i < 10; i++)
        if (fr[i] > maxim)
            maxim = fr[i];
    for (int i = 0; i < 10; i++)
        if(fr[i] == maxim)
            cout << poz[i] << ' ';

    return 0;
}
```

Subiecte antrenament, 2021, testul 2

```cpp
int x, primpoz = 1, ultpoz = 1, i = 0,
    inceput, sfarsit;
int main() {
    while (f >> x) {
        if (x > 0) {
            if (primpoz == -1)
                primpoz = i;
            ultpoz = i;
        }
        i++;
    }
    inceput = ultpoz + 1;
    sfarsit = i - primpoz;
    if (inceput > sfarsit)
        cout << inceput;
    else cout << sfarsit;

    return 0;
}
```

Subiect simulare, 2021

```cpp
int fr[11], x, sum = 0;
int main() {
    while (f >> x)
        fr[x]++;
    for (int i = 1; i < 11; i++)
        if (fr[i])
            sum += 10 + fr[i]*i*i;
    cout << sum;

    return 0;
}
```

Subiecte antrenament, 2021, testul 1

```cpp
int c = 0, fr[100], x, k = 99;
int main() {
    while (f >> x)
        if (x > 9 && x < 100)
            fr[x]++;

    while (c < 2)


    return 0;
}
```

Model subiect 2021

```cpp
int v[101], x, y, z, maximul = 0, contor =
    0;
int main() {
    while (f >> x >> y >> z)
        v[x] += y * z;

    for (int i = 1; i < 101; i++)
        if (v[i] > maximul)
            maximul = v[i];

    for (int i = 1; i < 101; i++)
        if (v[i] == maximul)
            contor++;

    cout << maximul << ' ' << contor;
    return 0;
}
```

Sesiunea august-septembrie 2020

```cpp
int fr[100], x, maxi = 10, mini = 99, ok =
    0;
int main()
{
    while (f >> x){
        if(x > 9 && x < 100) {
                    if(x<mini)
                            mini=x;
            if(x>maxi)
                            maxi=x;
            ok=1;
        }
    }
    if (ok)
        cout << --mini << ' ' << ++maxi;
    else cout << "nu exista";

    return 0;
}
```

Sesiunea iunie-iulie 2020

```cpp
int fr[1001], x, contor = 0;
int main() {
    while (f >> x)
        fr[x]++;

    for (int i = 1; i < 1001; i++)
        if (fr[i] < 2 && fr[i])
            contor++;

    if (contor > 1) cout << "NU";
    else cout << "DA";

    return 0;
}
```

Sesiunea specială 2020

```cpp
int x, y, z, abs_val=0, absmin=1000000007,
    maximus=0, ok=0;
int main() {
    bac >> x >> y;
    while (bac >> z) {
        if (y > z && y > x) {
            ok = 1;
            if (x > z) abs_val = x - z;
            else abs_val = z - x;

            if (abs_val < absmin) {
                absmin = abs_val;
                maximus = y;
            } else if (abs_val == absmin
    && y > maximus) {
                maximus = y;
            }
        }
        x = y;
        y = z;
    }
    cout << maximus;
    return 0;
}
```

Subiecte antrenament, 2020, testul 1

```cpp
int x, y;
ofstream afisare("bac.out.txt");
int main() {
    cin >> x >> y;
    while (y != 1) {
        afisare << y << ' ';
        int rat = 3 * x - y;
        y = x;
        x = rat;
    }
    afisare << y << ' ' << x;
    return 0;
}
```

Subiecte antrenament, 2020, testul 2

```cpp
int x, m1=0, m2=0, m3=0;
int main() {
    while (bac >> x) {
        if (x % 10 == 0 && (x / 10) % 10
    == 2) {
            if (x > m1) {
                m3 = m2; m2 = m1; m1 = x;
            } else if (x > m2) {
                m3 = m2; m2 = x;
            } else if (x > m3) {
                m3 = x;
            }
        }
    }
    cout << m3 << ' ' << m2 << ' ' << m1;
    return 0;
}
```

Subiecte antrenament, 2020, testul 3

```cpp
int x, primpoz=-1, ultpoz=-1, i=0,
    inceput, sfarsit;
int main() {
    while (bac >> x) {
        if (x < 0) {
            if (primpoz == -1) {
                primpoz = i;
            }
            ultpoz = i;
        }
        i++;
    }
    inceput = ultpoz + 1;
    sfarsit = i - primpoz;
    if (inceput > sfarsit) {
        cout << inceput;
    } else {
        cout << sfarsit;
    }
    return 0;
}
```

Subiecte antrenament, 2020, testul 4

```cpp
int x, last, fr=1, ok=0;
int main() {
    f >> x;
    last = x;
    while (f >> x) {
        if (last == x) {
            fr++;
        } else {
            if (fr == 2) {
                cout << last << ' ';
                ok = 1;
            }
            fr = 1;
        }
        last = x;
    }
    if (fr == 2) {
        cout << last;
        ok = 1;
    }
    if (ok == 0) {
        cout << "Nu exista";
    }
    return 0;
}
```

Subiecte antrenament, 2020, testul 5

```cpp
int x, s, maxi = -1001;
int main() {
    s = 0;
    while (f >> x) {
        s = s + x;
        if (x > s) {
            s = x;
        }
        if (s > maxi) {
            maxi = s;
        }
    }
    cout << maxi;
    return 0;
}
```

Subiecte antrenament, 2020, testul 6

```cpp
int p1, p2;
int main() {
    cin >> p1 >> p2;
    for (int i = 1; i < 10; i++)
    for (int j = 0; j < 10; j++)
    for (int k = 1; k < 10; k++)
        if(!(p1 % i) && !(p2 % k))
        if(p1 / i < 10 && p2 / k < 10)
            g << i << p1 / i << j << j;
            g << j << k << p2 / k << endl;

    return 0;
}
```

Subiecte antrenament, 2020, testul 7

```cpp
int x, s, mini = 1000;
int main() {
    s = 0;
    while (f >> x) {
        if (x < s + x)
            s = x;
        else s += x;

        if (s < mini)
            mini = s;
    }

    cout << mini;
    return 0;
}
```

Subiecte antrenament, 2020, testul 8

```cpp
int fr[10], poz[10], x, maxim, i;
int main() {
    while (f >> x) {
        fr[x % 10]++;
        poz[x % 10] = ++i;
    }

    for (int i = 0; i < 10; i++)
        if(fr[i] > maxim)
            maxim = fr[i];

    for (int i = 0; i < 10; i++)
        if(fr[i] == maxim)
            cout << poz[i] << ' ';

    return 0;
}
```

Subiecte antrenament, 2020, testul 9

```cpp
int k, x, sec, secmax, nrsec;
int main()
{
    f >> k;
    while (f >> x)
    {
        if (x % k == 0)
            sec++;
        else
        {
            if (sec > secmax)
                secmax = sec, nrsec = 1;
```

```cpp
            if (sec == secmax)
                nrsec++;
            sec = 0;
        }
    }
    if (sec > secmax)
        secmax = sec, nrsec = 1;
    cout << secmax << ' ' << nrsec;
    return 0;
}
```

Subiecte antrenament, 2020, testul 10

```cpp
int x, y, z, sec=1, secmax=0, r;
int main() {
    f >> x >> y;
    while (f >> z) {
        if ((y - x) == (z - y)) {
            sec++;
        } else {
            if (sec > secmax) {
                secmax = sec;
                r = y - x;
            }
            sec = 2;
        }
        x = y;
        y = z;
    }
    if (sec > secmax) {
        secmax = sec;
        r = y - x;
    }
    cout << r;
    return 0;
}
```

Subiecte antrenament, 2020, testul 11

```cpp
unsigned int x, y, sec=1;
int main() {
    f >> x;
    while (f >> y) {
        if (y == x) {
            sec++;
        } else {
            cout << x << ' ' << sec << ' ';
            sec = 1;
        }
        x = y;
    }
    cout << x << ' ' << sec;
    return 0;
}
```