```cpp
#include <bits/stdc++.h>
using namespace std;
#define MOD (int)(1e9+7)
#define inf (int)1e9
#define ll long long
```

Get line equation from its two points:

```cpp
struct pt {
    double x, y;

    bool operator<(const pt& p) const
    {
        return x < p.x - EPS || (abs(x - p.x) < EPS && y < p.y - EPS);
    }
};

struct line {
    double a, b, c;

    line() {}
    line(pt p, pt q)
    {
        a = p.y - q.y;
        b = q.x - p.x;
        c = -a * p.x - b * p.y;
        norm();
    }

    void norm()
    {
        double z = sqrt(a * a + b * b);
        if (abs(z) > EPS)
            a /= z, b /= z, c /= z;
    }

    double dist(pt p) const { return a * p.x + b * p.y + c; }
};
```

Intersection of two line by its equation:

```cpp
const double EPS = 1e-9;

struct pt {
    double x, y;
};
struct line {
    double a, b, c;
};

double det(double a, double b, double c, double d) {
    return a*d - b*c;
}

bool intersect(line m, line n, pt & res) {
    double zn = det(m.a, m.b, n.a, n.b);
    if (abs(zn) < EPS)
        return false;
    res.x = -det(m.c, m.b, n.c, n.b) / zn;
    res.y = -det(m.a, m.c, n.a, n.c) / zn;
    return true;
}
```