```cpp
#include "../bits/stdc++.h"
// XorShift 乱数生成器
// verified: https://atcoder.jp/contests/rco-contest-2019-qual/submissions/4237801
struct XorShift
{
    using result_type = uint32_t;
    result_type w = 123456789, x = 362436069, y = 521288629, z = 88675123;
    XorShift(result_type seed = time(nullptr))
    {
        w = seed;
        x = w << 13;
        y = (w >> 9) ^ (x << 6);
        z = y >> 7;
    }
    static const result_type min() { return 0; }
    static const result_type max() { return 0x7FFFFFFF; }
    result_type operator()()
    {
        result_type t = x ^ (x << 11);
        x = y;
        y = z;
        z = w;
        return w = (w ^ (w >> 19) ^ (t ^ (t >> 8)));
    }
    result_type rand()
    {
        result_type t = x ^ (x << 11);
        x = y;
        y = z;
        z = w;
        return w = (w ^ (w >> 19) ^ (t ^ (t >> 8)));
    }
    // [min,max] の整数値乱数
    result_type randInt(result_type min = 0, result_type max = 0x7FFFFFFF)
    {
        return rand() % (max - min + 1) + min;
    }
    // [min,max] の浮動小数点乱数
    double randDouble(double min = 0, double max = 1)
    {
        return (double)(rand() % 0xFFFF) / 0xFFFF * (max - min) + min;
    }
    // 変数をデフォルト値に設定する
    void SetDefault()
    {
        w = 123456789;
        x = 362436069;
        y = 521288629;
        z = 88675123;
    }
};
```