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#include <iostream>
#include <algorithm>
#include <random>
#include <iterator>
#include <vector>

using namespace std;

int main() {

    // I want to show that if the seed is known, so is every "random" number
    mt19937 rng1(100);
    mt19937 rng2(100);

    for (int i = 0; i < 10; ++i) {
        cout << "RNG1: " << rng1() << ", ";
        cout << "RNG2: " << rng2() << "\n";
    }

    // Now lets re-seed with random entropy
    rng1.seed(random_device{}());
    rng2.seed(random_device{}());

    for (int i = 0; i < 10; ++i) {
        cout << "RNG1: " << rng1() << ", ";
        cout << "RNG2: " << rng2() << "\n";
    }

    vector<int> n {0, 1, 2, 3, 4, 5, 6, 7, 8, 9};

    for_each(begin(n), end(n), [](auto& i){cout << i << " ";});
    cout << "\n";

    shuffle(begin(n), end(n), rng1);

    for_each(begin(n), end(n), [](auto& i){cout << i << " ";});
    cout << "\n";

    return 0;
}
```