#include <iostream>

#include <map>

using namespace std;

// Function to add two polynomials

map<int, int> addPolynomials(const map<int, int>& p1, const map<int, int>& p2) {

map<int, int> result = p1;

for (const auto& term : p2) {

result[term.first] += term.second;

}

return result;

}