#include <iostream.h>
#include <iomanip.h>
#include "fraction.h"

ostream& operator<< (ostream& os, fraction f) {
    f.printFraction();
    return os;
}

void main() {
    fraction
        f(8,16), g(2,8), h(7,11), k(6,15), l(10,14), result;    //fractions
    int
        i,n;
    result = f + g;                                          //compute f + g
    cout << "The sum is:  " << result;
    result = f - g;                                          //compute f - g
    cout << "The difference is:  " << result;
    cout << "The product is:  " << f * g;                     //compute f * g
    cout << "The quotient is:  " << f / g;                    //compute f / g
    cout << "The result of the complex operation is:  "
        << g * (f - k) + h * h - k / (l + g * f);
    //compute the sum 1/1 + 1/2 + ... + 1/n
    cout << "\nPlease input a positive integer:  ";
    cin >> n;
    fraction sum(0,1), next;
    for (i = 1;  i <= n;  i++) {
        next.assign(1,i);
        sum = sum + next;
    }
    cout << "The sum of 1/i from i = 1 to i = 1/1 + 1/2 + ... + 1/n is:  " << sum;
}