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//
//  main.cpp
//  AbsoluteCpp_ch12_7
//
//Reads all the numbers in the file rawdata.dat and writes the numbers to
the screen and to the file neat.dat in a neatly formatted way.

#include <iostream>
#include <fstream>
#include <cstdlib>
#include <iomanip>
using std::ifstream;
using std::ofstream;
using std::cout;
using std::endl;
using std::ios;
using std::setw;

void makeNeat(ifstream& messyFile, ofstream& neatFile,
              int numberAfterDecimalpoint, int fieldWidth);
//Precondition: The streams messyFile and neatFile have been connected to
two different files. The file named messyFile contains only floating-point
numbers.
//Postcondition: The numbers in the file connected to messyFile have 19
//been written to the screen and to the file connected to the stream
neatFile. The numbers are written one per line, in fixed-point notation
(that is, not in e-notation), with numberAfterDecimalpoint digits after
the decimal point; each number is preceded by a plus or 23 minus sign and
each number is in a field of width fieldWidth. (This function does not
close the file.)

int main(int argc, const char * argv[]) {

    ifstream fin;
    ofstream fout;
    fin.open("rawdata.txt");
    if (fin.fail( ))
    {
        cout << "Input file opening failed.\n";
        exit(1);
    }
    fout.open("neat.txt");
    if (fout.fail( ))
    {
        cout << "Output file opening failed.\n";
        exit(1);
    }

    makeNeat(fin, fout, 5, 12);

    fin.close( );
    fout.close( );
    cout << "End of program.\n";
}

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    return 0;
}

//Uses <iostream>, <fstream>, and <iomanip>:
void makeNeat(ifstream& messyFile, ofstream& neatFile,
              int numberAfterDecimalpoint, int fieldWidth)
{
    neatFile.setf(ios::fixed);
    neatFile.setf(ios::showpoint);
    neatFile.setf(ios::showpos);
    neatFile.precision(numberAfterDecimalpoint);

    cout.setf(ios::fixed);
    cout.setf(ios::showpoint);
    cout.setf(ios::showpos);
    cout.precision(numberAfterDecimalpoint);

    double next;
    while (messyFile >> next)
    {
        cout <<setw(fieldWidth) << next << endl;
        neatFile <<setw(fieldWidth) << next << endl;
    }
}

```