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// Name: James Small
// Program: 3B
// Class: CSE455
// Description: Input class Implementation File

#include "Input.h"
#include <fstream>
#include <iostream>
#include <vector>
#include <stdlib.h> // for atoi
#include <ctype.h> // for isdigit

using namespace std;

// This is the default constructor

Input::Input(string fileName)
{
    this->fileToRead = fileName;
}

// This method asks user for a set of numbers and outputs them to a file

void Input::writeToFile()
{
    char count = 0;
    float currentValue;
    string currentString = "";
    bool countGood = false;

    do {
        cout << "Enter the amount of numbers to write: ";

        cin >> count;

        if (isdigit(count)) {
            if (atoi(&count) > 0)
                countGood = true;
            else
                cout << "\nInvalid number, Try again\n\n";
        } else
            cout << "\nInvalid number, Try again\n\n";

        cin.ignore(INT_MAX,'\n');

    } while (!countGood);

    ofstream outfile;

    outfile.open(fileToRead.c_str());

    for (int i = 0; i < atoi(&count); i++) {

        cout << "Enter number " << i + 1 << ": ";

        cin >> currentString;
```

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        while (!stringToFloat.isStringAFloat(currentString)) {

            cout << "\nInvalid Value, try again\n\n";
            cout << "Enter number " << i + 1 << ": ";

            cin.ignore(INT_MAX,'\n');

            cin >> currentString;
        }

        currentValue = stringToFloat.getFloatValue();

        if (i == count - 1)
            outfile << currentValue;
        else
            outfile << currentValue << " ";
    }

    outfile.close();
}

// This method reads in a set of numbers from a file and displays them on screen

void Input::readFromFile()
{
    ifstream infile;

    infile.open(fileToRead.c_str());

    float currentValue = 0;

    while (!infile.eof()) {
        infile >> currentValue;
        cout << currentValue << endl;
    }

    infile.close();
}

// This method modifies an existing file one line at a time.

void Input::modifyFile()
{
    ifstream infile;

    infile.open(fileToRead.c_str());

    float currentValue = 0;
    char choice;
    vector<float> currentNumbers;
    bool acceptAllNumbers = false;

    while (!infile.eof()) {
        infile >> currentValue;
```

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    if (acceptAllNumbers) {
        currentNumbers.push_back(currentValue);
    } else {

        bool choiceGood = false;
        do {
            cout << "\nWhat would you like to do with this number, " <<
                currentValue << "?\n";
            cout << "Enter 1 to accept this number.\n";
            cout << "Enter 2 to replace this number.\n";
            cout << "Enter 3 to delete this number.\n";
            cout << "Enter 4 to insert a new number after current number.\n";
            cout << "Enter 5 to accept the remainder of the numbers.\n";
            cout << "Choice: ";

            cin >> choice;

            if (isdigit(choice)) {
                if (atoi(&choice) > 0 && atoi(&choice) < 6)
                    choiceGood = true;
                else
                    cout << "\nInvalid Choice, Try again\n\n";
            } else
                cout << "\nInvalid Choice, Try again\n\n";

            cin.ignore(INT_MAX,'\n');

        } while (!choiceGood);

        switch (choice) {
            case '1':
                currentNumbers.push_back(currentValue);
                break;
            case '2':
                currentNumbers.push_back(enterNumber());
                break;
            case '3':
                break;
            case '4':
                currentNumbers.push_back(currentValue);
                currentNumbers.push_back(enterNumber());
                break;
            case '5':
                currentNumbers.push_back(currentValue);
                acceptAllNumbers = true;
                break;
            default:
                break;
        }
    }
}

infile.close();

bool choiceGood = false;
```

```
    do {
        cout << "\nWould you like to replace the current file or create a new
            file?\n";
        cout << "Enter 1 to replace the current file's contents.\n";
        cout << "Enter 2 to create a new file.\n";
        cout << "Choice: ";

        cin >> choice;

        if (isdigit(choice)) {
            if (atoi(&choice) > 0 && atoi(&choice) < 3)
                choiceGood = true;
            else
                cout << "\nInvalid Choice, Try again\n\n";
        } else
            cout << "\nInvalid Choice, Try again\n\n";

        cin.ignore(INT_MAX,'\n');

    } while (!choiceGood);

    if (choice == 2) {
        cout << "Enter the file name to access: ";
        cin >> fileToRead;
    }

    ofstream outfile;

    outfile.open(fileToRead.c_str());

    for (int i = 0; i < currentNumbers.size(); i++) {
        if (i == currentNumbers.size() - 1)
            outfile << currentNumbers[i];
        else
            outfile << currentNumbers[i] << " ";
    }
}

// This method allows input of a float

float Input::enterNumber()
{
    float current = 0;
    string currentString = "";

    cout << "\nEnter number: ";

    cin >> currentString;

    while (!stringToFloat.isStringAFloat(currentString)) {

        cout << "\nInvalid Value, try again\n\n";
        cout << "\nEnter number: ";

        cin >> currentString;
    }
```

```
        current = stringToFloat.getFloatValue();

        return current;
    }
```