```
// Name: James Small
// Program: 1B
// Class: CSE455
// Description: Program to input and output a list of numbers to
a file
#include <iostream>
#include <string>
#include "Input.h"
using namespace std;
int main()
{
    int choice = 0;
    cout << "What would you like to do?\n";</pre>
    cout << "Enter 1 to read from file.\n";</pre>
    cout << "Enter 2 to write to file.\n";</pre>
    cout << "Enter 0 to quit.\n";</pre>
    cout << "Choice: ";</pre>
    cin >> choice;
    if (choice != 0) {
        string file;
        cout << "Enter the file name to access: ";</pre>
        cin >> file;
        Input input(file);
        if (choice == 1)
             input.readFromFile();
        else if (choice == 2)
             input.writeToFile();
    }
    return 0;
}
```

```
// Name: James Small
// Program: 1B
// Class: CSE455
// Description: Input class Header File
#ifndef INPUT_H
#define INPUT_H
#include <string>
using namespace std;
class Input
   public:
        Input(string fileName);
        void writeToFile();
        void readFromFile();
    private:
        string fileToRead;
};
#endif
```

```
// Program: 1B
// Class: CSE455
// Description: Input class Implementation File
#include "Input.h"
#include <fstream>
#include <iostream>
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()
    int count = 0;
    float currentValue;
    cout << "Enter the amount of numbers to write: ";</pre>
    cin >> count;
    ofstream outfile;
    outfile.open(fileToRead.c str());
    for (int i = 0; i < count; i++) {
        cout << "Enter number " << i + 1 << ": ";</pre>
        cin >> currentValue;
        if (i == count - 1)
            outfile << currentValue;
        else
            outfile << currentValue << " ";</pre>
    }
    outfile.close();
}
// This method reads in a set of numbers from a file and displays
them on screen
```

// Name: James Small

```
void Input::readFromFile()
{
   ifstream infile;
   infile.open(fileToRead.c_str());
   float currentValue = 0;
   while (!infile.eof()) {
      infile >> currentValue;
      cout << currentValue << endl;
   }
   infile.close();
}</pre>
```

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### **PSP0 Project Plan Summary**

Compile

Total Development

After Development

Test

Name: James Small Program: 1B Number: 1 Instructor: Dr. Concepcion Language: C++ Time in Phase (min.) Plan Actual To Date To Date % Planning 7 13 Design 7 7 13 Code 12 12 22.2 Compile 9 9 16.7 Test 14 25.9 14 Postmortem 5 5 9.3 Total 80 54 54 100 **Defects Injected** To Date Actual To Date % Planning 0 0 0 Design 33.3 1 1 Code 2 2 66.7 Compile 0 0 0 Test 0 0 0 Total Development 100 3 3 **Defects Removed** Actual To Date To Date % Planning 0 0 0 Design 0 0 0 0 Code 0 0

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#### Time Recording Log

Name:	James Small	
Program:	1B	Number: 1
Instructor	Dr. Concepcion	Language: C++

Date	Start	Stop	lnt. Time	Delta Time	Phase	Comments
2014-01- 6	18:08	18:15	0	7	Planning	Read Prompt and setup program 1b in moops
2014-01- .6	18:15	18:22	0	7	Design	made initial design on paper
014-01- 9	17:05	17:17	0	12	Code	wrote the code in C++
014-01- 9	17:18	17:27	0	9	Compile	Compiled and fixed compilation bugs
014-01- 9	17:28	17:45	3	14	Test	Confirmed it worked according to the specs, break for bathroom
014-01- 9	17:46	17:51	0	5	Postmortem	Filled out form and took screenshots of working code
				<u> </u>	-	
				<u>                                     </u>		

good Add design duc next time

2 days

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# Defect Recording Log

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Instructor:	Dr. Conce	pcion			Lang	guage: C++	
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```
// James Small
// Program 1B
// Software Engineering
                                            use class/object
#include <iostream>
#include <fstream>
#include <string>
                                                -4.0
using namespace std;
int menu()
    int choice = 0;
    cout << "What would you like to do?\n";</pre>
    cout << "Enter 1 to read from file.\n";</pre>
    cout << "Enter 2 to write to file.\n";</pre>
    cout << "Enter 0 to quit.\n";</pre>
    cout << "Choice: ";</pre>
    cin >> choice;
    return choice;
}
string fileName()
    string file;
    cout << "Enter the file name to access: ";</pre>
    cin >> file;
    return file;
}
void readFromFile(string fileName)
    ifstream infile;
    infile.open(fileName.c str());
    float currentValue = 0;
    while (!infile.eof()) {
        infile >> currentValue;
        cout << currentValue << endl;</pre>
    }
    infile.close();
}
void writeToFile(string fileName)
```

```
{
    int count = 0;
    float currentValue;
    cout << "Enter the amount of numbers to write: ";
    cin >> count;
    ofstream outfile;
    outfile.open(fileName.c str());
    for (int i = 0; i < count; i++) {
        cout << "Enter number " << i + 1 << ": ";</pre>
        cin >> currentValue;
        if (i == count - 1)
           outfile << currentValue;</pre>
        else
            outfile << currentValue << " ";</pre>
    outfile.close();
int main()
   string file;
    int menuChoice = menu();
    if (menuChoice != 0) {
        file = fileName();
        if (menuChoice == 1)
            readFromFile(file);
        else if (menuChoice == 2)
            writeToFile(file);
   return 0;
```

# **Compilation Image**

```
jamess-imac:Program1B AcousticTime$

### Operation of the program of the progr
```

# **Write Image**

## **Read Image**

```
jamess-imac:Program1B AcousticTime$ ./program1b
                                                jamess-imac:Program1B AcousticTime$ ./program1b
What would you like to do?
                                                What would you like to do?
Enter 1 to read from file.
                                                Enter 1 to read from file.
Enter 2 to write to file.
                                                Enter 2 to write to file.
Enter 0 to quit.
                                                Enter 0 to quit.
Choice: 2
                                                Choice: 1
Enter the file name to access: testfile
                                                Enter the file name to access: testfile
Enter the amount of numbers to write: 10
Enter number 1: 15.0
Enter number 2: 69.9
                                                69.9
Enter number 3: 6.5
                                                6.5
Enter number 4: 22.4
                                                22.4
Enter number 5: 28.4
                                                28.4
Enter number 6: 65.9
                                                65.9
Enter number 7: 19.4
                                                19.4
Enter number 8: 198.7
                                                198.7
Enter number 9: 38.8
                                                38.8
Enter number 10: 138.2
jamess-imac:Program1B AcousticTime$ █
                                                138.2
                                                jamess-imac:Program1B AcousticTimes 🏻
```

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# **Design Methodology Diagram**

### **Main Function**

call menu() function
call filename() function
call read() or write() function based on menu choice

### **Menu Function**

display menu, return choice

## **FileName Function**

ask user for file name, return choice

## read Function

read selected file and display numbers

### write Function

ask user for amount of numbers allow user to enter numbers and output to file