

```

// 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";
    cout << "Enter 1 to read from file.\n";
    cout << "Enter 2 to write to file.\n";
    cout << "Enter 0 to quit.\n";
    cout << "Choice: ";

    cin >> choice;

    if (choice != 0) {

        string file;

        cout << "Enter the file name to access: ";
        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
```

```

// Name: James Small
// 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: ";

    cin >> count;

    ofstream outfile;

    outfile.open(fileToRead.c_str());

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

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

        cin >> currentValue;

        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;

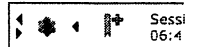
    infile.open(fileToRead.c_str());

    float currentValue = 0;

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

    infile.close();
}
```

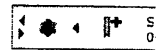
6.0
10

**PSP0 Project Plan Summary**Name: James SmallProgram: 1BInstructor: Dr. ConcepcionNumber: 1Language: C++

Time in Phase (min.)	Plan	Actual	To Date	To Date %
Planning		<u>7</u>	<u>7</u>	<u>13</u>
Design		<u>7</u>	<u>7</u>	<u>13</u>
Code		<u>12</u>	<u>12</u>	<u>22.2</u>
Compile		<u>9</u>	<u>9</u>	<u>16.7</u>
Test		<u>14</u>	<u>14</u>	<u>25.9</u>
Postmortem		<u>5</u>	<u>5</u>	<u>9.3</u>
Total	<u>80</u>	<u>54</u>	<u>54</u>	<u>100</u>

Defects Injected	Actual	To Date	To Date %
Planning	<u>0</u>	<u>0</u>	<u>0</u>
Design	<u>1</u>	<u>1</u>	<u>33.3</u>
Code	<u>2</u>	<u>2</u>	<u>66.7</u>
Compile	<u>0</u>	<u>0</u>	<u>0</u>
Test	<u>0</u>	<u>0</u>	<u>0</u>
Total Development	<u>3</u>	<u>3</u>	<u>100</u>

Defects Removed	Actual	To Date	To Date %
Planning	<u>0</u>	<u>0</u>	<u>0</u>
Design	<u>0</u>	<u>0</u>	<u>0</u>
Code	<u>0</u>	<u>0</u>	<u>0</u>
Compile	<u>2</u>	<u>2</u>	<u>66.7</u>
Test	<u>1</u>	<u>1</u>	<u>33.3</u>
Total Development	<u>3</u>	<u>3</u>	<u>100</u>
After Development			



Time Recording Log

Name: James Small

Program: 1B

Instructor: Dr. Concepcion

Number: 1

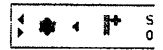
Language: C++

[illegible]

good. Add design
doc next time

2 days
✓

Total: 54

**Defect Recording Log**

Name: James Small
 Program: 1B
 Instructor: Dr. Concepcion

Number: 1
 Language: C++

Date	Number	Type	Inject	Remove	Fix Time	Fix Ref.
2014-01-19	1	20 - Syntax	Code	Compile	1	

Description: Forgot ; after a line of code

Date	Number	Type	Inject	Remove	Fix Time	Fix Ref.
2014-01-19	2	20 - Syntax	Code	Compile	1	

Description: Forgot to import fstream library

Date	Number	Type	Inject	Remove	Fix Time	Fix Ref.
2014-01-19	3	10 - Documentation	Design	Test	5	

Description: Last number was duplicated on read in, problem was with output method.

Date	Number	Type	Inject	Remove	Fix Time	Fix Ref.

Description: _____

Date	Number	Type	Inject	Remove	Fix Time	Fix Ref.

Description: _____

Date	Number	Type	Inject	Remove	Fix Time	Fix Ref.

Description: _____

Date	Number	Type	Inject	Remove	Fix Time	Fix Ref.

Description: _____

```

// James Small
// Program 1B
// Software Engineering

#include <iostream>
#include <fstream>
#include <string>

using namespace std;

int menu()
{
    int choice = 0;

    cout << "What would you like to do?\n";
    cout << "Enter 1 to read from file.\n";
    cout << "Enter 2 to write to file.\n";
    cout << "Enter 0 to quit.\n";
    cout << "Choice: ";

    cin >> choice;

    return choice;
}

string fileName()
{
    string file;

    cout << "Enter the file name to access: ";
    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;
    }

    infile.close();
}

void writeToFile(string fileName)

```

use class/object

-4.0


```

{
    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 << ": "; ✓
        cin >> currentValue;

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

    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

```
james-1mac:Program1B AcousticTime$  
james-1mac:Program1B AcousticTime$  
james-1mac:Program1B AcousticTime$  
james-1mac:Program1B AcousticTime$  
james-1mac:Program1B AcousticTime$  
james-1mac:Program1B AcousticTime$  
james-1mac:Program1B AcousticTime$ g++ -o program1b program1b.cpp  
james-1mac:Program1B AcousticTime$ █
```

Write Image

Read Image

```
james-1mac:Program1B AcousticTime$ ./program1b  
What would you like to do?  
Enter 1 to read from file.  
Enter 2 to write to file.  
Enter 0 to quit.  
Choice: 2  
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  
Enter number 3: 6.5  
Enter number 4: 22.4  
Enter number 5: 28.4  
Enter number 6: 65.9  
Enter number 7: 19.4  
Enter number 8: 198.7  
Enter number 9: 38.8  
Enter number 10: 138.2  
james-1mac:Program1B AcousticTime$ █
```

```
james-1mac:Program1B AcousticTime$ ./program1b  
What would you like to do?  
Enter 1 to read from file.  
Enter 2 to write to file.  
Enter 0 to quit.  
Choice: 1  
Enter the file name to access: testfile  
15  
69.9  
6.5  
22.4  
28.4  
65.9  
19.4  
198.7  
38.8  
138.2  
james-1mac:Program1B AcousticTime$ █
```



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