

**PSP0 Project Plan Summary**

Name: James Small

Program: 1B

Instructor: Dr. Concepcion

Number: 1

Language: C++

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

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

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

**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)

```

```

{
    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-iac:Program1B AcousticTime$  
james-iac:Program1B AcousticTime$  
james-iac:Program1B AcousticTime$  
james-iac:Program1B AcousticTime$  
james-iac:Program1B AcousticTime$  
james-iac:Program1B AcousticTime$  
james-iac:Program1B AcousticTime$ g++ -o program1b program1b.cpp  
james-iac:Program1B AcousticTime$
```

Write Image

```
james-iac: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-iac:Program1B AcousticTime$
```

Read Image

```
james-iac: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-iac: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