Programming Challenges to Review (Lecture/Lab – week#4)

Practice Lab 1: Write a program that prints the number 1349.9431 with three decimal places, with two decimal places, and with one decimal place.

Practice Lab 2: Write a program that prints each of the following values in two columns:

1234, 45, 7, 87, 99999. The first column should be left-justified and the second column should be right-justified.

Practice Lab 3: This exercise uses program CharRead to read character variables.

```
// Program CharRead prompts for and reads four characters from the keyboard and then prints them.
#include <iostream>
using namespace std;
int main ()
{
char char1;
char char2;
char char3;
char char4;
cout << "Input four characters. Press return." << endl;
cin >> char1 >> char2 >> char3 >> char4;
cout << char1 << char2 << char3 << char4;
return 0;
}
```

Compile and run this program four times using the four sets of data values listed below. Key these values exactly as shown, including blanks.

Input Data	What Is Printed
abcd	
a b c d	
1b2c	
31 45	

Examine the results carefully. Do any of the results surprise you? (Remember that the extraction operator skips whitespace.)

Practice Lab 4: This exercise uses program CharRead2 to read character variables.// Program CharRead2 prompts for and reads four characters from the keyboard and then prints them.

```
#include <iostream>
using namespace std;

int main ()
{
char char1;
char char2;
char char3;
char char4;
cout << "Input four characters. Press return." << endl;
cin.get (char1);
cin.get (char2);
cin.get (char3);
cin.get (char4);
cout << char1 << char2 << char3 << char4;
return 0;
}
```

Compile and run this program four times using the four sets of data values listed below. Key these values exactly as shown, including blanks.

Input Data	What Is Printed
abcd	
a b c d	
1b2c	
31 45	

Examine the results carefully. Do any of the results surprise you? (Remember that the function get does not skip whitespace.)

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```cpp
// Program StrRead reads and writes strings.
#include <iostream>
#include <fstream>
#include <string>

#include <cstdlib>
using namespace std;

int main ()
{
ifstream inFile;
ofstream outFile;
string inString1;
string inString2;

inFile.open ("strData.in");
outFile.open ("outData");

/* TO BE FILLED IN. */


outFile << inString1 << endl;
outFile << inString2 << endl;
system("PAUSE");
return 0;
}
```

strData.in contains the following information:

 Object-Oriented languages include C++ and Java.
List processing languages include Lisp and Scheme.

Practice Lab 3: Fill in the missing code in program StrRead so that inString1 contains the characters "Object-Oriented" and inString2 contain the characters "languages". Compile and run your program.

Practice Lab 4: Fill in the missing code in program StrRead so that inString1 contains the entire first line of data and inString2 contains the entire second line of data. Compile and run your program.