

CS 1428

Lab 1 Sections 19 and 06

Jared Wallace

Topic

Today we're covering file input and output. The two objects we use for file input and output are **ifstream** (for input files) and **ofstream** (for output files). For either object you must open a file before it can be used. After opening a file you **MUST** check that the file was opened successfully. If you do not check for a successful open and the open did fail then your program will most likely not crash. Instead the program will run but behave strangely. We read in from and write out to our files using the insertion (<<) and extraction (>>) operators just like we do with **cin** and **cout**.

For example:

```
1  int myInt;
2  ifstream fin;
3
4  fin.open("myfile.txt");
5  if (!fin)
6  {
7      cout << "Failed to open the file.\n";
8      return 0;
9  }
10
11 fin >> myInt;
12 cout << "The integer is " << myInt << endl;
```

Part 1: Getting input from a file

The provided input file *input.txt* contains 3 grades each for 3 people for a total of 9 grades. I want you to read in the grades for each person, calculate the average for each person and calculate the average for the whole "class". After these calculations are complete I want you to print the results to the screen in a format that is readable.

I have provided you with a starter file *input.cpp* which contains the basic structure for your program and includes all the libraries that you should need. Rename your copy *input_(netid).cpp*.

Part 2: Printing output to a file

Create your own program named *output_(netid).cpp* which will send its output to the file *output.txt*. I would like you to print out several things.

- Your name
- The lab section (C.S.1428.L0#)
- Today's date
- Today's lab number
- A description of what we learned today.

The output should be neatly formatted, labeled and clear enough that any random person reading it can tell what you're trying to say.

When you are finished you must upload both source files (both *input_(netid).cpp* and *output_(netid).cpp*) through the homework upload utility and print out a copy of each. Staple this page to the front of those as a cover sheet, write your name at the top and place it on my desk before leaving.

