CS 150 Lab 11
Files

Date: Tuesday, November 4, 2008

The purpose of today's lab is for you to get some hands-on experience with how to read in from files.
- **Be sure to answer the given questions before you start**
- Be sure your output looks exactly like the specified output
- Be sure to submit your solution to CS150-01 Lab when you are done (By Friday, Nov 7, 5pm)
- Show the instructor or TA your solution before submitting it

Lab 11.1

For this lab, you will need to create a new Visual Studio project that will contain your source code. Name this project "11a-AveragesXXXXXXXX", replacing the XXXXXXXX with your PUNetID.

Write a program that will ask open a file and read in all of the integers until the end of the file. You are to display to the screen the average of the numbers that were read in.

You can read in until the end of file by using the following. The segment below outputs the contents of a file to the screen.

```
while(inputFile >> num)
{
    cout << num << " ";
}
```

```
  /----------------/
 / File Average   /
/----------------/

The average of the numbers in the file is: 7.9
```

What data will you need to track in your program? What data types will you need to use?

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What elements of the output need to be produced by a loop? What data will control when these loops will terminate?

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Lab 11.2

For this lab, you will need to create a new Visual Studio project that will contain your source code. Name this project "11b-BankXXXXXXXX", replacing the XXXXXXXX with your PUNetID.

You are to write a program that will process a collection of checking account transactions for one customer only.

The input will consist of a series of lines of data, the first line containing the account number and the previous balance. Each subsequent line will contain: (a) a date in the form 041019 to be read into an integer, (b) one of two characters (D - deposit, orW - withdrawal) to be read into a char and (c) an amount of money to be deposited or withdrawn to be read into a float. A deposit transaction is identified by the character D followed by the amount of the deposit. A withdrawal transaction is identified by the character W followed by the amount of the withdrawal. Each transaction is preceded by a date. The last line of the data contains a date of 000000 which stands for end

A simple data file might contain:
```
1234 500.00
11032008 W 25.00
11042008 W 99.25
11042008 D 100.00
000000
```

Your program will print the summary statistics for all transactions. The summary statistics will consist of:
1. number of withdrawals
2. total sum of all the withdrawals
3. number of deposits
4. total sum of all the deposits

```
         ********************************
         *       Bank Transactions      *
         ********************************
                   Account: ####
          Previous Balance: $####.##


Date     Withdrawals($)      Deposits($)      Balance($)
######       ######.##                          ######.##
######                        ######.##         ######.##
######                        ######.##         ######.##
######       ######.##                          ######.##


         (##) Withdrawals Totalled $######.##
         (##) Deposits    Totalled $######.##
```