
Reading from and Writing to Files Part 2

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Last Time

- ◆ We
 - Started looking at how we read from and write to files
- ◆ Today we will
 - Look at more examples

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Example: Reading from a File

- ◆ Write a program that will read in a sequence of numbers (double) from a file and calculate the sum. Assume that the last number is the trailer (-9999)

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Reading Until the EOF

- ◆ It is possible to read from a file until the end is reached

```
while ( inInfo >> num )
{
    cout << num << " ";
    sum += num;
}
```

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Reading Characters

- ◆ Write a program that reads in some text from a file and outputs that text to the screen
- ◆ The file contains:

```
Hello Everyone!
I'm a file that
contains some text.
```

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Solution

```
ifstream inInfo;
char letter;

inInfo.open("in.dat", ios::in);
if (!inInfo)
{
    cout << "*** Error opening file" << endl;
    exit (1);
}

while ( inInfo >> letter )
{
    cout << letter;
}
cout << endl;
```

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The Output

- HelloEveryone!I'mafilethatcontainsstext.
- What's happened?!
- All spaces, tabs, and new lines have been ignored.
- This is because >> only reads visible characters
- How can we read all characters so that the output looks exactly like the input

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Solution

```
ifstream inInfo;
char letter;

inInfo.open("in.dat", ios::in);
if (!inInfo)
{
    cout << "*** Error opening file" << endl;
    exit (1);
}

while ( inInfo.get( letter ) )
{
    cout << letter;
}
cout << endl;
```

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Problem

- Consider the data file below, where - indicate spaces:
--12--33.4
-d--12.3
-2--5
- What values would be assigned to the variables for each of the statements below where inInfo is the file variable?

```
int i,j;
double x,y;
char ch;
o inInfo >> i >> x >> y;
o inInfo >> i >> j;
o inInfo >> ch >> i;
o inInfo >> x >> y >> ch >> x;
```

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Problem

- A file contains the following data:
1234 500.00
041001 W 25.00
041015 W 99.25
041030 D 100.00
000000
- Where the
 - o first line is a bank account number and the amount of money in the account
 - o subsequent lines contain a date, a W or D indicating withdraw and deposit, and the amount withdrawn or deposited
 - o final line contains 000000

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Output

- Write a program that will use the data in the file to output the following:

```
Account: ###
Previous Balance: $###.##
Date Withdrawals($) Deposits($) Balance($)
#####.## #####.## #####.##
#####.## #####.## #####.##
#####.## #####.## #####.##
(##) Withdrawals Totalled $#####.##
(##) Deposits Totalled $#####.##
Lowest Balance during month was $#####.##
Highest Balance during month was $#####.##
```

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Summary

- In today's lecture we covered
 - o Reading to and writing from files
- Readings
 - o P. 809 - 819

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