

CIS 291 – Data Structures in C++ - Spring 2005
Week 8 Lab Exercise and Homework #6 - PART 2

Week 8 Lab Exercise due: by END of LAB on Tuesday, March 8th
Homework #6 - Part 2 - see below

Purpose:

Verifying that HW #6 - part 1 meets specifications, reviewing some pointer basics.

Week 8 Lab Exercise

1. Your **wordcount** class should be ready to go. Let's test it a bit.

When working in teams, team members must follow specifications precisely. Otherwise, other team members using their code might get unpleasant surprises

On **cs-server**, from the directory where your **wordcount** class's code resides, try running:
`~st10/291lab08_test`

If it prints two congratulatory messages and then exits, then chances are very good that you met the specifications for class **wordcount**. If not --- uh oh.

When it does work, put your name on the board's **Next:** list, so that your possibly-spec-worthy **wordcount** class can be verified.

2. As a bit of review/refresher of pointers before proceeding to **linked lists** in Thursday's lecture, answer the following questions: (Be careful with the distinction between a **statement** and an **expression**!)

- (a) Write a C++ statement that will declare **numPtr** to be a pointer to an integer.

- (b) Assume that **myVal** has already been declared to be an integer and has been set to **13**. Write a C++ statement that will cause **numPtr** to point to **myVal**.

- (c) Write a C++ statement that will change what **numPtr** points to to be the value **56**.

- (d) Assume that (a) through (c) have been done. What value is in variable **myVal**? _____

- (e) Assume that the following statement is now executed: **myVal = 44;**
What, now, is the value of the expression: ***numPtr** _____

- (f) Write a statement that will declare **latestWord** to be a **wordcount** object, for the word **"the"**.

(g) Write an **expression**, using **latestWord**, that represents what is in latestWord's word field:

(h) Write an **expression**, using **latestWord**, that represents what is in latestWord's count field:

(i) Write a **statement** to change what is in latestWord's count field to be one greater than its current value.

(j) Now, write a statement that will declare **wcPtr** to be a pointer to a **wordcount** instance (but will NOT instantiate this pointer yet).

(k) Now write a statement that will dynamically allocate a new **wordcount** instance, for the word "**pointer**", and cause **wcPtr** to point to this new wordcount instance.

(l) Write an **expression**, using **wcPtr**, that represents what is in the word field of the wordcount instance pointed to by **wcPtr**:

(m) Write an **expression**, using **wcPtr**, that represents what is in the count field of the wordcount instance pointed to by **wcPtr**:

(n) Write a **statement**, using **wcPtr**, to change what is in the count field of the wordcount instance pointed to by **wcPtr** to be one greater than its current value.

(o) Write a **statement** that will free the space pointed to by **wcPtr**.

When you are finished with the above, put your name on the **Next:** list and have your answers checked. To receive credit for this lab exercise, the above must be completed by the end of the lab period.

Homework #6 - Part 2

Unfortunately, problems were encountered with what was supposed to be HW #6 - part 2. So, there IS no HW #6 part 2. HW #7 will be posted sometime on Thursday.