MAT 101 — Introduction to Computer Programming (C++)

Handout #17, April 7, 2005

Today's tasks:

1. Psuedocode discussion
2. Use pseudocode to solve the previous classwork (pr 5 page 218). You may assume that you have the following information:
   (a) A function (call it readinteger) which reads in some numbers as integer arrays of arbitrary length and reverses them. This function also returns the length of each number and fills in the unused portion of the arrays with 0s. (Thus if the user wanted to input the numbers 123 and 32, this function would return an array with **a[0] = 3**, **a[1] = 2**, and **a[2] = 1** and length **3**. The function would return another array with **b[0] = 2** and **b[1] = 3** and length **2**.
   (b) To add two elements together, you might write a for loop that does the following: **c[i] = a[i] + b[i]+ carry**
   (c) To figure out the carry, you might use integer arithmetic and write: **c[i]/10**
   (d) To figure out the final value of **c[i]** after figuring out carry, you might right, **c[i] = c[i] - 10*carry**.
   (e) It is up to you to figure out exact for loops, to figure out how to detect overflow, and to write the exact pseudocode using this information.
3. Homework for Tuesday: Read pages 548-561. Make sure you understand the material and can do the self-test excersizes as I will likely give a quiz on Tuesday.
4. More Extra Credit: This one is more involved. Page 220, Problem 9. Due by May 3rd. I will likely request that you personally describe sections of the code to me in person. More extra credit will be given along the way - all due at varying times. If you do any of the extra credit problems, be sure to send me an email telling me which problem and where it is located.