

GE U111 ENGINEERING PROBLEM SOLVING & COMPUTATION, SPRING 2004  
HOMEWORK #2

DATE ASSIGNED: January 22, 2004  
DATE DUE: January 29, 2004 (at the beginning of class)  
READING: Chapter 2, start Chapter 3 (JK)

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1. Write a C++ program that will prompt the user for integers. When the user enters a negative integer, the program stops reading numbers and writes the sum of all the nonnegative numbers entered. You should submit along with your program (.cpp file) a copy of your pseudocode or flowchart for this problem. Call your program "HW2Axxx.cpp", where xxx are your initials. Be sure to **document** your source file (i.e., COMMENT your program so that it is clear what you are trying to do, and how you are trying to do it!) Test your program on the following inputs: 3, 54, 23, 6, 49, -4. Submit a printout of what appears on your terminal window.
  
2. Write a C++ program that prompts the user for two nonnegative integers  $m$  and  $n$  and prints  $m^n$  ( $m$  and  $n$  can take on the values 0, 1, 2, 3, ...). You may **not** use the "pow" function to do this. You should submit along with your program (.cpp file) a copy of your pseudocode or flowchart for this problem. Call your program "HW2Bxxx.cpp", where xxx are your initials. Be sure to **document** your source file (i.e., COMMENT your program so that it is clear what you are trying to do, and how you are trying to do it!) Test your program on the following values of  $m$  and  $n$ :

$$m = 3 \text{ and } n = 5$$

$$m = 6 \text{ and } n = 8$$

$$m = 4 \text{ and } n = 5$$

$$m = 2 \text{ and } n = 0$$

$$m = 0 \text{ and } n = 0$$

Submit printouts of what appears on your terminal window for **EACH** of the five cases given above.

3. Submit the following items in a folder properly labeled and bound. Be sure that both your name and class section (Section 1) appear on the front of the folder. Assignments presented otherwise will be returned with penalty.
  - a. Correspondence page (cover letter, memo, fax sheet)
  - b. List of contents
  - c. Flowchart or pseudocode for HW2-A
  - d. Printed copy of your commented source file (HW2Axxx.cpp)
  - e. Printout of terminal window for inputs specified for HW2-A
  - f. Flowchart or pseudocode for HW2-B
  - g. Printed copy of your commented source file (HW2Bxxx.cpp)
  - h. Printouts of the 5 terminal windows for inputs specified for HW2-B
  - i. Diskette with both program files. (HW2Axxx.cpp and HW2Bxxx.cpp)
  
4. Email copies of both program files (HW2Axxx.cpp and HW2Bxxx.cpp) to Stephen Frechette at sfrechet@ece.neu.edu by 11:45am on January 28th. In the subject line, type the following: "Your last name, GE U111-Section 1, HW 2".