Homework #5 due 2/12/06…

**Exercises**

1) Explore the implementation of the *for* loop. Design a C++ program that will only output even numbers up to 20 using a for loop.

2) Write a program that outputs all the numbers between and including two numbers input by a user.

3) Write a program that has a main that asks the user for two numbers (assume they are in ascending order) and then calls a *function* that outputs each number and the sum total of all the numbers up to that point for all numbers between and including the two numbers passed to it. This function should return to the main the final sum total.

4) Write a C++ program that uses a nested (loop inside a loop) *for* loop to calculate the factorial of each number from 2 to 15.

5) You have already discovered that some of the ASCII table characters print differently than you might expect. For example, in the enumeration example the outputs actually output a character for each suit of the card. Write a C++ program with nested loops that neatly lists all the ASCII characters from 0 to 255 in eight columns (so we can see them all on the screen). Each row should have the integer and its appropriate ASCII character (spaced for legibility) and then a tab and the next integer, etc. You will find some unusual printing in the beginning of the table. How come?

6) Use two different *for* loops to first have the user input data into an array of type and size of your choice, and second to output the index of the array and the contents of the array neatly.

7) Do problem #6 again but utilize pointers instead of directly accessing the array name.

8) Write a small program that permits a user to choose how large an array they desire. The program then dynamically allocates memory with pointers. Repeat problem #7 with this dynamic array.

9) Although I did not specifically demonstrate dynamic memory allocation of a single memory location in class, check your book, or other resources and develop a program that verifies this concept.

10) Permit a user to enter an entire line of input (up to 60 characters) and then outputs the line in reverse order. Can you see some ideas for encoding information?

Make sure you have read all of chapters 1 through 5 in your book.