Homework 7

1. **(String Usage)** Write a program that will allow a user to enter in a sentence of up to 100 characters. Then, take that sentence and print to screen the number of capital letters and lower case letters. Next, output the complete sentence in all lower case letters and then output the sentence on the next line in all upper case letters. Be sure to use a function for input that limits the number of characters read in so that if the user types in a sentence that’s longer than 100 characters your program correctly handles it.
2. **(String Usage)** A palindrome is a word that is the same forward as it is backwards. For example, the words ‘eye’ and ‘racecar’ are palindromes. Write a program that will accept a word from a user of up to 20 characters, and then determine if that words is a palindrome. Be sure that your program is smart enough to ignore case (for example, Racecar should be accepted as a palindrome).
3. **(File Processing - Writing)** The same Bicycle shop that contracted you to write the double array problem in HW5 has now decided that they want to keep a log of all employee transactions. Write a program that will allow users to enter in their name (you only need to use first name) and the item that they sold (for example, “James Bicycle”). After each employee types in a sale, your program should record that sale in a file called sales.txt. Each sale should comprise one line of the sales.txt file (thus, be sure to use a \n after each sale). At the end of the day when the manager types in ‘quit quit’ the program should terminate.
4. **(File Processing - Reading)** Now that we have all of our sales recorded in a file, the manager wants to be able to look up the sales any employee had. Write a program that will read the data file written in problem 3. Your program should prompt the user to enter the first name of an employee. Once the user enters the employees name, your program should go through the file and print out any items that employee sold. After you have finished printing out all the items sold by the employee, ask the user if he/she would like to search for another employees items. Continue this until the user enters ‘quit’.