Computer Programming: Skills and Concepts  
Week 9 – November 15-18, 2010

Sorting

(i) Put the following words in lexicographical order using the bubble sort algorithm. How many swaps did you have to do?

\textbf{hat, operate, but, not, the, other, bulb}

(ii) Same question, this time using (the general version of) MergeSort (for arrays of any length). In this case, you would count the number of times (any call of) \texttt{merge} places an value currently stored in b (the second array) before some of the a (first array) values, in creating the output array c.

(iii) Our implementations of the BubbleSort and MergeSort algorithms were given for arrays of type \texttt{int}. Describe how to alter the implementations to deal with arrays of strings (ie, arrays of \texttt{char*}).
Programming

Take a look at the functions provided by the string library <string.h>

Write a function with prototype

MakePlural(char *singular, char *plural);

This function is intended to take a singular noun singular and construct its plural form plural. It won't be possible to handle all cases, but have you covered cat/cats, cherry/cherries, journey/journeys, box/boxes and and moss/mosses? What about index/indices?