PDS Lab 7 Section 3 Date: 24.06.2021

Question 1

Define a structure to represent an input sentence with at most 5 words.

Write the following functions:

- a) sortSent(...) returns a pointer to a structure that represents the sentence where the words have been sorted in ascending order of the ASCII values of their first alphabet.
- b) sortStruct(...) takes as input a pointer to an array of sentences (of at most 5 words) and returns a pointer to an array of sentences sorted in descending order of the ASCII values of the last alphabet of the sentence.
- c) printSent(...) takes in a pointer to a sentence and prints the sentence.
- d) Finally, the main() program takes as input a sentence with at most 5 words. Let n<=5 be the number of words in the first input sentence. The program asks for 5n more sentences and stores all n input sentences in an array M. A new array N with 5n+1 sentences is constructed from M by transforming each even indexed sentence by sortSent(...). Finally, sortStruct(...) is applied to the array N. the sentences of M and N are printed out.

Question 2

Write a C function int Merge(size1, size2, *ptr1, *ptr2) to merge two sorted arrays and return the resulting sorted array.

Here, size1 and size2 represent the number of elements of the two arrays and *ptr1, *ptr2 point to two given sorted arrays.

In the main program, read the two sorted arrays with their sizes from the key board and merge them into one sorted array.

Print the input sorted arrays and the resulting sorted array after merging in the main function.

Example:

Two Input arrays

A = (5, 11, 17, 33, 67, 98)

B = (2, 20, 21, 45, 76, 100)

Output Array C = (2, 5, 11, 17, 20, 21, 33, 45, 67, 76, 98, 100)