EECS 221 Embedded Systems Programming in C

Assignment IV

Due To: 6.12.2019 23:55

Q1) Write a function which takes an integer array containing integers between 0-100 (0 and 100 are included) and sorts the array using the frequencies of each number.

The prototype of the function should be like this:

void sort (int myArray[], int size);

Example: 2 1 3 1 1 1 1 3 3 1

Frequency of 1 is 6, frequency of 2 is 1, frequency of 3 is 3. 1 1 1 1 1 1 2 3 3 3

DO NOT USE ANY OTHER SORTING ALGORITHMS.

Q2) Write a program which compresses the entered character sequence with the Run Length Encoding (RLE) algorithm.

You will read the character sequence and apply RLE algorithm until * is seen.

RLE algorithm: It replaces sequences of the same data values (eg: characters, integers etc) by a count number and a single value.

EXAMPLE RUN:
INPUT:
aaaXXyyyyZ+++bb+++++77*****kkkkllllllnnnnggg

OUTPUT:
3a2X4y1Z3+2b5+27

NOTE: To take a string as input from the user, you can define the string as an array and traverse the array. You can use the following piece of code to take the input:

```
char input[100];

scanf("%s",input);

printf("%s",input);
```