National University of Computer and Emerging Sciences
School of Computing Fall 2019 Islamabad Campus
CS319: Applied Programming (Fall 2019)
Assignment 1
(Deadline: 21st September, 2019, 5:00 PM)

Submission: Combine all your work (solution folder) in one .zip file after performing "Clean Solution". Name the .zip file as ROLL_NUM_A_01.zip (e.g. 19i-0001_A_01.zip). Submit zip file on the google classroom within given deadline. Failure to submit according to above format would result in deduction of 10% marks. GitHub link will be shared later to upload the code. GitHub upload carries 10% marks.
Comments: Comment your code properly. Marks (minimum 10%) will be deducted for the undocumented code.
Deadline: No submission will be considered for grading outside google classroom. Correct and timely submission of assignment is responsibility of every student; hence no relaxation will be given to anyone.
Plagiarism: -50% marks in the assignment if any significant part of assignment is found plagiarized.
A code is considered plagiarized if more than 20% code is not your own work

1. Write a function that receives a string consisting of several lines of text and returns arrays indicating top 10 longest unique words and the number of occurrences of each unique word in the text along with their size. You cannot use string date type; however, you can use char *.

2. Your task is to design a program that can (i) convert any given string into an encrypted form, (ii) an encrypted sequence to string. You cannot use string date type; however, you can use char *.
   There are two encrypted schemes.
   a. First one converts letter to another letter. A to Z, Y to B, X to C and so on.
   b. Second one converts letter to numbers. The letter is encrypted through its ascii value mod by 23. For example, if letter A's ascii is 65, then 65%23 is 19. For letter A, 19 should be stored

3. Write a method which takes two values and swaps the values contained in the linked list.

4. Write a method which can insert and delete an element in a sorted link list.