

CS-205, Assignment –IV

Assignment Date: 21/08/2017

Submission Deadline: 27/08/2017

- A. A Doctor is fond of his name; he gives preference to the patients who has name similar to his name. For calculating similarity he matches the alphabets with his name. For example - if a patient's name is Richa, and the doctors' name is Ahmed then the similarity will be 1 as only one alphabet (a – ignore case) is common between the name of the doctor and patient. Tie is broken with arrival time. In some Sunday morning there is a long queue of patients in his clinic. Doctor started his chamber at 8 o'clock and he starts calling patient name as per priority discussed above. When he is done with one patient he rechecks the available patient at that instant and calls the next patient. Write a program which will read out n names of patients and their arrival time from user and also take input of doctor's name and outputs the order of patients they visited the doctor. Note that patient may arrive after 8 o'clock.

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- B. Write a C program for multiplying two n-bit numbers by an efficient $\Theta(n^{1.59})$ algorithm that breaks problem into 3 multiplications of two n/2-bit numbers and uses $\Theta(n)$ additions and shifts.

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- C. Write a C code of matrix multiplication of square matrix using divide and conquer paradigm.

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