Department of Computer Science and Engineering
Course: Design and Analysis of Algorithms

Shift-I

Assignment-Set-2

Max.Marks: 10

Last date of submission: 10-Sept -2019
Last date to withdraw: 19-Aug-2019

Q.1] Assume the Data set of 20x20. [Generate data set using random number generator in python]. An application is to be created to generate a sub matrix of size [nxn], [n is input] For example, if n=5 then matrix selected will be [5x5] from 20x20 available matrix.
The application generate a path to travel between "SOURCE AND SOURCE". **Roll no 16**

Q.2] Create a data set of set of words. [Minimum 50 words]
Accept a word as input from keyboard. Find the best five possible words similar to input word from the data set. **Roll no 17**

Q.3] Accept two words as input from keyboard. Write a program to suggest best possible correction sequence to transform word-1 into word-2. **Roll no 18**

Q.4] The input is consisting of two string which represents signature of user at two different instance. Write a program to find out longest common subsequence and print the same. Find out % difference between two signatures. If % difference is above 7%, display message, "Signature mismatch" **Roll no 19**

Q.5] The stock price of 30 days of month is stored in a list. Write program to find out dates on which the stock price has increased with respect to last increases. [Longest increasing subsequence] **Roll no 20**

Q.6] The sensors are deployed in forest using drone facility. The sensors are transmitting message to base station using point to point transmission. Derive a suitable mechanism to transmit the message assuming any one sensor as start point and any one sensor as base location. **Roll no 21**

Q.7] The students data about three test marks are stored in an Two dimensional array. Write code to find out the best cluster of student having maximum total score. **Roll no 23**

Q.8] Provide a suitable strategy to demonstrate the use of dynamic programming in spell checking. **Roll no 24**

Q.9] An application requires variables are to be stored in register. There are two possibilities. The variable can be in same register or can be different register. Use suitable design paradigm and implement. **Roll no. 25**

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Assignment-Set-3

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GOLANG

Q.1] Write a recursive quick sort function to sort an array of size "n". Use the function to operate on three types of arrays [Data evenly distributed] [Data unevenly distributed] [Array of int and char] **Roll no 41**

Q.2] Demonstrate the use of "Slice" function in Golang. The function should operate and mixed mode data type. **Roll no 82**

Q.3] Implement various string function in Golang [substring, replace, length, reverse]
Roll no 44

Q.4] Demonstrate the use of "map" function in Golang. The function should implement minimum three different operations. **Roll no 70**

Q.5] Demonstrate the implementation of interface in Golang. Also implement the same logic using JAVA. State differences. **Roll no 72**

Q.6] Demonstrate the Block-chain coding in Golang. **Roll no 42**