COMSATS University Islamabad, Lahore Campus

Assignment No. 02

Question No. 1:

Suppose a class contains an array of 30 integer elements and write a program how to insert an element in array at specific location given by the user. Moreover delete an element from an array and display the remaining elements.

Question No. 2:

Write a program that input 20 numbers in an array and counts all prime numbers entered by the user. The program finally displays total number of primes in array.

Question No. 3:

Write a program how an element can be searched out from an array by applying Binary Search methodology for N inputs.

Question No. 4:

Write a program to input a matrix of 3 x 3 and display the diagonal and the sum the upper and the lower parts of the diagonal and display the result.

Question No. 5:

Write a program to input a matrix of 5 x 5 and find out the sum of each row and sum of each column against each row and column and display the summary. Moreover find out the second largest and the second smallest number in each row and column of matrix.

Question No. 6:

Write a program that input a string `str` and an integer variable `pos`. The program will change all characters in the string `str` to the next `pos` given as input. For example your input is `'Hello', 2` (i.e. add 2 in each character until NULL encountered) the resultant become `'Jgnnq'`. If `'Z'` is the last character in the string then the replacement for `'Z'` becomes `'B'` and so on.

Question No. 7:

Write a program in that input a string and sums up the ASCII values of each character and then check whether this total is Even or Odd. If the total is Even then display `'E'` otherwise `'O'`. For example your input is `'AB'` the resultant become `'O'` (as the ASCII values of `'A'` and `'B'` are 65 & 66 respectively making the total to be 131).

Question No. 8:

You are required to rotate a word a certain amount. For example, to rotate the word "Computer" by 1 results in "rCompute". Rotating it two more times gives you "terCompu". The line contains the words will not have more than 30 letters. For example

Input and Output :
Computer

3

terCompu

Question No. 9:

Write a program using class to encode any given string such that it gets converted into an unrecognizable form. Also write a decode function to get back the original string. Try to make the encryption scheme as difficult to break as possible.