Assignment 5

1. Implement Binary Search

2. Read an integer N from user and create a matrix of alternate rectangles

   of O and X

   For e.g: N = 5;
   ooooo
   oxxxo
   oxoxo
   oxxxo
   ooooo

3. Write a program to do basic string compression aaaabbcccds -> a4b2c3d1s1

4. Write a program which reads a number as a string and converts it into integer

5. Write a program which reads two string t and s and returns the position of the rightmost occurrence of t in s.

6. You are given with a NxN matrix which contains only 0s and 1s. Your job is to write a program which will set every row that contains a 0 to all 0s and set every column that contains a 0 to all 0s. The output for the above input matrix will be:
   e.g. if input is 10110
   01110
   11111
   10111
   11111

   output should be

   00000
   00000
   00110
   00000
   00110

7. Write a program to search for the "saddle points" in a 2D array of integers. A saddle point is a cell whose value is greater than or equal to any in its row, and less than or equal to any in its column. There may be more than one saddle point in the array. Print out the coordinates of any saddle points your program finds. Print out "No saddle points" if there are none

8. Find number of substrings of string which are palindrome

9. Given an array of positive and negative integers, find if there is a subarray[consecutive elements] with 0 sum.

10. Evfv Given an array of random numbers, push all the zero's of a given array to the end of the array. For example, if the given arrays is {1, 9, 8, 4, 0, 0, 2, 7, 0, 6, 0}, it should be changed to {1, 9, 8, 4, 2, 7, 6, 0, 0, 0, 0}. The order of all the elements should be same.

11. Given an n x n matrix, where every row and column is sorted in increasing order. Given an integer key, K write a program to find if the key exists in the matrix or not.