1. You may choose any programming language.
2. Create a folder in your name and department and save the source files there.
    Example folder name: John_CSE, Ram_MCA.
3. You may hard code the inputs inside the program but make sure that changing the values are easier. Give importance to solve the core problem in an efficient way.

1 : Write a program to check if the given alpha numeric satisfies all of the below conditions.

  i.   A single alphabet or digit occurs 2 consecutive times. Like 77 / cc
  II. A single alphabet or digit occurs 3 or more times in the given alpha numeric.
      i.   Three consecutive alphabets or digits either in increasing or decreasing order. Like 345 / 543 or xyz / zyx
      ii. Not more than 2 spaces.

Input : 54234efg33h
Output : Matches

2 : Write a program to form lines using the given set of words. The line formation should follow the below rules.

 i) Total characters in a single line excluding the space between the words and the favorite character should not exceed the given maximum number
 ii) Favorite character is case insensitive. i.e, if the favorite is specified as 'd' then both 'd' and 'D' should be left out while counting.
 iii) Words should not be broken up. Complete words alone should be used in a line. A word should be used in one line only.

Input :
Max char per line : 10
Favorite character : o
Words : Zoho,Eating,Watching,Pogo,Loving,Mango

Output :
Watching Zoho (10)
Eating Mango (10)
Loving Pogo (7)

Input:
Max char per line : 15
Favorite character : w
**Words** : Twinkle,Twinkle,little,star,how,I,wonder,what,you,are

Output :
Twinkle Twinkle what (15)
little wonder star (15)
you are how I (9)

3. A queen is standing on an n x n chessboard. In a single move, she can attack any square in any of the directions (left, right, top, bottom and diagonal). There can be obstacles 'K' on the chessboard, each preventing the queen from attacking any square beyond it on that path. Determine how many squares the queen can attack including the obstacles. Chessboard size, the queen's position, number of obstacles and their position's should be obtained as input.

In the first diagram the Q is placed in (2,2) and there are no obstacles. So the queen can strike all the cells that are covered by arrows. So the answer is 16 (i.e) the queen can attack 16 squares.
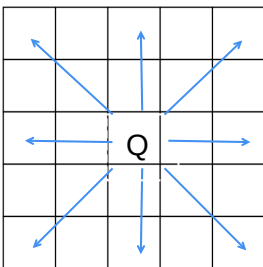
In the second, Q is placed in (2,2) and there are two obstacles. One at (1,3) and (2,1). so now the queen can strike only 14 places (Includes the obstacles too)
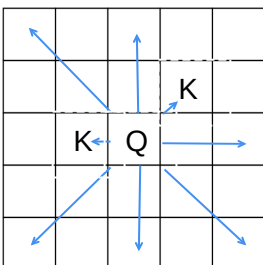
In the third, Q is placed in (2,2) and there is one obstacle at (0,3). The queen can now strike in 16 places since K is not in its path.
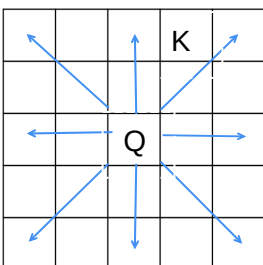
4. Using **RECURSION,** write a program to find the decimal equivalent of a given binary number

Input : 110010
Output : 50

Input : 100100
Output : 36

Input : 100
Output : 4