National University of Computer and Emerging Sciences, Lahore Campus

	Course:	Introduction to Computing Lab	**Course Code:**	CS 101
	Program:	BS(Computer Science)	**Semester:**	Fall 2016
	Duration:	2 hours	**Total Marks:**	50
	Date	05-12-16	**Weight**	40%
	Section:	R	**Pages:**	2

NOTE:
- Plagiarism will lead to straight **F** in Lab.
- Use of internet, notes (hard or soft form) and any other helping code is **NOT** allowed.
- No extra time will be given. Manage your time properly and Submit within time.
- Submit **ONLY .CCP Files** in this format (Your Roll no. and problem number):

<div align="center">

YY-XXXX**P1**.ccp
YY-XXXX**P2**.ccp

</div>

Question 1:

Find count of three letter words not having any vowel in that word of string, and indices where they exist.
Sample is given:

> I am a boy, and I love to eat.
> Output: Total words: 0
> Indices: -1
> I am a girl, and I love to fly.
> Output: Total Words: 1
> Indices: 8
> I am a girl, and I try to fly.
> Output: Total Words: 2
> Indices: 6,8

Question 2:

Write a program to calculate students' average test scores and their grades.
You may assume the following input data from File **"input.IN"**:

> Johnson 85 83 77 91 76
> Ahmad 80 90 95 93 48
> Navaira 78 81 11 90 73
> Ayesha 92 83 30 69 87
> Abdullah 23 45 96 38 59
> Jameel 60 85 45 39 67
> Laiba 77 31 52 74 83
> Saad 93 94 89 77 97
> Iman 79 85 28 93 82
> Ayyan 85 72 49 75 63

Use three arrays: a one-dimensional array to store the students' names, a (parallel) two-dimensional array to store the test scores, and a parallel one dimensional array to store grades. Your program must contain at least the following functions: a function to read and store data into two arrays, a function to calculate the average test score and grade, and a function to output the results. Have your program also output the average.
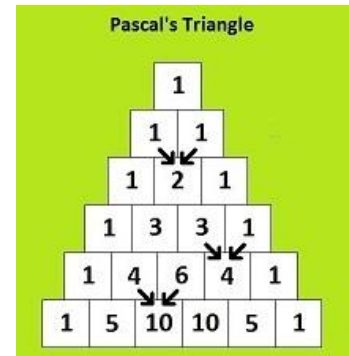
Question 3:

Write a function that takes a 2D array P and No of levels N as a parameter and generates a Pascal Triangle upto N-Levels in 2D array.

The pascal triangle uptill Level 6 is shown below

<div align="center">

1

1 1

1 2 1

1 3 3 1

1 4 6 4 1

1 5 10 10 5 1

</div>

Pascal's Triangle

In Pascal triangle, the first and the second Level are initailize to 1. Each element of the triangle (from the third row downward) is the sum of the element directly above it and the element to the left of the element directly above it.