National University of Computer and Emerging Sciences

Lab 02

For

Object Oriented Programming Lab

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Instructions:

- Submit .docx file with format Section_18F-XXXX.docx. Example E_18F-1234.docx. Also make separate .cpp file for all the questions with names q1.cpp, q2.cpp and so on. Upload all the files in the submission. Don't make any .zip or .rar file.
- Submission will not be accepted if not in the above format.

Question 1:

Create a function to create 3x3 matrix using Dynamic Memory Allocation and populate that matrix by taking input form the user and return a pointer to that matrix. In the Main function you are required to call this function 2 times to get two 3x3 matrices and then perform multiplication using pointers and store the result into third matrix and print them also using pointers.
Note: Use pointer notation

Question 2:

Input a sentence from the user. Use full stop, space and comma as word separators. Each word should be stored in a 2D array whose columns vary in size and each row stores one word as a NULL terminated string. For example, if the user inputs:

Hello how are you?
It should be stored as:

H	e	l	l	o	NULL
h	o	w	NULL		
a	r	e	NULL		
y	o	u	?	NULL	

Question 3:

Write a program which get dimensions of a int 2D Array (row and column) and then declare the array dynamically. Now populate the array randomly using the random function (ranging from 1 to 1000). Now find number of prime integers in the array by using the function. Now store all the prime numbers in another 1D array and display it.

Question 4:

Write a code which get size of two arrays from user and fill the data randomly. Now your task is to compare both arrays using a function. The function should store same entries of both arrays into a 1D array. If there are no same entries in both arrays there should be an error. Otherwise display resultant array in main function.

Question 5:

Write a function called diagonal that takes as parameters a pointer to a 2D array and its dimensions and return the diagonal elements of array