NATIONAL TEXTILE UNIVERSITY

Department of Computer Science

Lab # 10: Programming Fundamentals (COC-1071)

Basic Information			
Registration#		**Name**	
Total Marks		**Marks Obtained**	
Tools:	Dev-C++ 5.4.1		
Objectives	1. Two Dimensional Arrays 2. Pointers	3.	
Note	Solve the following problems using the concepts we have covered so far		

2-Dimensional Arrays

1. Write two functions with name input and output, these functions input the 2- dimensional (3X3) array and display them. Use these arrays from main.
2. Ask the user to enter the dimension of the array (row and column) and input this matrix and display it
3. Ask the user to input a 2-dimensional (3X3) array, multiply this matrix with 3 and display it
4. Input a 4-by-5 array and find the minimum and maximum element from it
5. Ask the user to enter two 3X3 matrices and save their product in third matrix display on screen
6. Ask the user to enter the dimension of two matrices (row and column) and input these matrices and display their sum and product on the screen, if their dimensions are same
7. Consider the following code and understand it:

```
#include <iostream>
using namespace std;
int main() {
char a[3][10];
for(int i=0;i<3;i++)
cin>>a[i];
for(int i=0;i<3;i++)
cout<<a[i]<<endl;
    return 0;
}
```

8. Consider the following table and save it in two dimensional array:

Student#	Programming	Calculus	Linear Algebra	Islamic Studies	Average
1005	75	85	80	75	
1006	85	65	78	86	
1007	65	70	69	58	
1008	60	75	79	79	

Pointer Variables

9. Declare a character variable and integer variable initialize them with some value. Display their value and address

10. Declare & Initialize a character and float array of size 3. Display address of all locations and observe addresses

11. Declare three-character variables and three character pointers. Assign the address of these character variables to the pointers. Input these variables using pointers. Display them on screen.

12. Declare three float variables and pointers. Assign the address of the variables in pointers. Input these variables using pointers. Calculate their average and display it on screen using pointers

13. Write a function which receives three pointer variables, add them and return their answer. In main function, declare three integer variables and pointer. Assign the address of these variables in pointers. Pass these variables to the function and display their addition.

14. Implement swapping function using pointers and use it with the bubble sort algorithm.