NATIONAL TEXTILE UNIVERSITY

Department of Computer Science

Lab # 11: Programming Fundamentals (COC-1071)

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

Functions and Pointers: Implement following function using pointers

1. Write a function, which takes an integer value as argument and print asterisks in a line according to the argument. Use this function in main by passing address of a variable
2. Write a function, which takes two arguments, first char and second int; prints a rectangle of char of size int. Call this function in main by input from user
3. Write a function, which takes 5 arguments and print their average. Use this function in main.
4. Input five number between 1-20 using a loop and print # by passing these number to a function
5. Write a function with the name of **fact**, which calculate factorial of a value that is sent as an argument
6. Write a function which take the radius of circle and return the area of circle
7. Write a function multiple with two integer arguments and bool return type. The functions check whether first integer is multiple of second if yes return 1 else return 0. Use this function in main in the if condition

Pointer Arithmetic and Arrays

8. Declare two pointers to the floats. Assign the address of a float variable to the first pointer. Copy this address in the second pointer. Add 3.5 in the value of float using second pointer. Display the result using the first pointer.

9. Declare an integer pointer store the address of some integer location in it. Display the next and previous address of assigned location.

10. Declare a 5 element double array. Input its value from user. Declare an integer pointer and save the array address in it. Display all elements of array using pointer arithmetic.

11. Declare a 10 element integer array. Input its value from user. Declare an integer pointer and save array address in it. Display third, 5^{th} and 9^{th} elements using pointer

12. Write following statements, int a[]={1,2,3,4,5}; Declare an integer pointer store the address of last element of array. Display array in reverse order

13. Consider the statement, char a[]=" This is a text code"; Display this string in reverse order using a pointer variable

14. Input a ten element float array, pass the address of first, 5^{th} and 10^{th} element address to a function. This function display the average.

15. Input two arrays of size 5 in main. Pass these array to a functions which swaps first elements of these array. Then display them in main

16. Write a function input and output which input and array using pointer and output this array, using pointer notation

Dynamic Memory Allocation, Character Pointer and Double Pointer

17. Declare three pointers to integers. Dynamically allocate memory to them. Assign some value and Display their addition

18. Declare three pointers to character. Dynamically allocate memory and assign A, B, C to them and then Display them.

19. Declare five pointers to integers. Input their values and pass them to a function which will display largest among them.

20. Dynamically allocate memory to an integer array of size 10. Input and output its values using input and output functions

21. Use a double pointer for single pointer to an integer location. Assign 10 to this location, add 50 to the value of this location and display it using double pointer.

22. Initialize and output a string using character pointer

23. Input a character array through character pointer copy it to another pointer and display it on screen
24. Input a character array through character pointer copy first 5 characters of this array to another pointer and display it.
25. Ask user to enter a string which consists of at least 5 sentences. Separate these sentences using strtok function
26. Ask user to enter a string and count how many times string **of** is present in the string