NATIONAL TEXTILE UNIVERSITY

Department of Computer Science

Lab # 12: Programming Fundamentals (COC-1071)

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

Double Pointers

1. Declare 2 pointers to integers and 2 variables. Take two double pointers and assign them pointer address. Input the values of integer variables and take their average and display it on screen using with double pointer.
2. Declare two pointers to character. Dynamically allocate memory and assign A, B to them and then Display them on console using double pointer.
3. Declare two pointers to integers. Dynamically allocate memory to them. Assign some value and Display their addition using double pointer

Classes

4. Create a class with name student with data types: RegNumber, Name, Semester, Degree, Department, and CGPA. Create three objects of this class and display its value on screen.
5. Create a class with employee {Name, Department, age}. Create two objects, input their values and display them on screen.
6. Create a Class Teacher (ID, Name, Highest Qualification, Scale). And perform following:
   - Input its value through input function passed by reference. Output its value through output function. Create its variable in main and pass by reference
   - Create a pointer and assign it object address. Initialize properties of object using pointer and display
   - Create a pointer and dynamically allocate memory to it. Initialize object properties using pointer and display
   - Create and array of size 5. Assign properties of structure using a loop and display them again using loop.
7. Create a Class BOOK (ISBN, Title, Price, Main Area, Sub Area, No of Pages), Create an array of 5 elements, Pass it to input function for input, Pass it to output function for output display all data in tabular form, Implement search function which input Main Area and display books related to that area
8. Create class Car with following private data; Company, Model_Year, Model_Name, KM Driven. Write functions to set and get class properties. Create an object and call functions of the car.
9. Create class for NTU students with private properties: RegNumber, Name, Semester, Degree, Department, and CGPA. Write functions to set and get properties of the class. Also write a display function. Create two objects and call functions.
10. Create a class BOOK with properties ISBN, Title, Price, Main Area, Sub Area, No of Pages. Write input and output functions both outside the class.
11. Create a class Computer with properties: Brand Name, Speed, Memory Size. Create input and output functions. Create and object and a pointer assign object address to the pointer. Call class functions using pointers.
12. In Question no. 9, Dynamically allocate memory the pointer of Computer and call its functions
13. Create an array of 5 computers and call function in the loop
14. **Telephone Directory**: Implement a telephone directory with capacity 10 using classes. This directory has following menu:

Telephone Directory

1 Add Record
2 Display All
3 Search By First Name

Enter your choice:

Contact Class consists of properties {id, First Name, Last Name, Telephone Number, Mobile Number, Email, City}.