	Assignment No. 01 Semester: SPRING 2014 **VISUAL PROGRAMMING**	**Total Marks: 30** **Due Date:** **16 / 04 / 2014**

Instructions

Please read the following instructions carefully before submitting assignment:

Feel free to ask your questions related to assignment 1 via e-mail at afzal.se@**must.edu.pk**. **No MDB related to assignment is answered and blocked.**

It should be clear that your assignment will not get any credit if:

- o **Assignment is submitted after due date.**
- o **Submitted assignment does not open or file is corrupt.**
- o **Submitted assignment file is not in required format.**
- o **Assignment is copied (From internet/ to from students).**

Objective
To understand and revise basics of C / C++ Language.

Software (s) Used to develop Assignment
Dev C++

Assignment Submission Instructions
- ➢ **Assignment should be submitted in "VU-RollNo.cpp" format.**
  e.g. MC123456789.cpp
- ➢ **You are not allowed to change given Variables Names, Types and Function Names.**

Assignment

We are going to write a program of **Vehicle Registration System**. Follow the instructions / problem set below for assignment;

1 – There are two (2) structures in a program named as **Vehicle** and **Owner**.

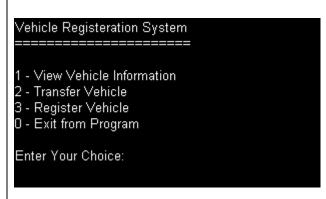2 – Variables in **Vehicle** structure are;

Structure of Vehicle

Attribute Name	Data Type	Example
vehicle-type	Char	2 wheel, 3 Wheel, 4 wheel etc.
maker	Char	Honda, Toyota, Suzuki etc.
year-of-manufacture	Int	2012 etc
engine-no	Char	BR-29536 etc.
registration-no	Char	LEV-0012 etc.
vehicle-price	unsigned int	48000 etc.

3 – Variables in **Owner** structure are;

Structure of Owner

Attribute Name	Data Type
owner-name	Char
father-name	Char
address	Char
date-of-purchase	Int
month-of-purchase	Int
year-of-purchase	Int
transferred-from	Char

4 – Make enumerator named as **vehicle-class** which has the value set given below. No vehicle is beyond these values.
- Motor Cycle
- Car
- Van
- Sports Car
- Pickup
- Truck

5 – **vehicle-class** enumerator should be in structure **Vehicle**.

6 – Instance / variable / object of **Vehicle** structure is passed in **Owner** structure.

7 – Initialize the variables in structures. (You may initialize them in structure / main function).

8 – When your program starts, the following lines are appeared on screen.

9 – There are three functions named as:
- **View**
- **Transfer**
- **Register**

10 - These three functions take a single input parameter that is pointer to structure **Owner**. Functions have return type as void

11 – Handle the choice entered by user by Switch statement.
- If user enters 1 then function View is triggered.
- For option as 2, Transfer function is triggered.
- Option 3 trigger function Register.
- Any other input cause to terminate program.

12 – If user input is from 1 – 3 then your program, performs the required task shows result and then Clear the screen (clrscr () function is used to clear DOS screen. Function is in 'conio' header file) and then screen appears as in point 8, until unless users exit the program.

13 – Some Functions implementation details (functions in point 9)

Function View:
- It displays all information stored in **Owner** Structure. (**Vehicle** information is also included in **Owner** Structure)
- Sample Display Screen is provided below;

```
==================
VEHICLE INFORMATION:
==================

Registration No: LEV-1234
Vehicle Type: 4 Wheel
Vehicle Class: Car
Maker: Honda
Year of Manufacture: 2012
Engine No: BR-29536
Vehicle Price: 48000 Rs


==================
OWNER INFORMATION:
==================

Owner Name: Ali Hussain
Father's Name: muhammad hussain
Address: ABC Town, Lahore.
Date of Purschasing: 15 / 1 / 2012
```

Function Transfer:
- Sample Display Screen is provided below;

```
======================
VEHICLE TRANSFER FORM:
======================


Buyer Name: ABC
Father's Name: XYZ
Address: XYZ123ABC
Date of Purchasing: 31/5/2012
```

- You have to swap Owner Name and Transferred from then take input from user for the fields as in figure above.
- After that Clear the Screen and call View function to view all information in the structure as shown in Function View description in addition of displaying Transferred from name at the end.

Function Register:
- You have to take input of all variables in structure except Transferred from. (Registration is used for newly buy vehicle)
- Sample Display Screen is provided below;

```
================================
VEHICLE REGISTERATION INFORMATION
==================
VEHICLE INFORMATION:
==================


Registration No: LEV-1234
Vehicle Type: 4 Wheel
Vehicle Class: Car
Maker: Honda
Year of Manufacture: 2012
Engine No: BR-29536
Vehicle Price: 48000 Rs


==================
OWNER INFORMATION:
==================

 Owner Name: Ali Hussain
 Father's Name: muhammad hussain
 Address: ABC Town, Lahore.
 Date of Purschasing: 15 / 1 / 2012
```