*C# BASICS*

# Training Assignments

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| Version | 1.1 |
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**Hanoi, 03/2022**

**RECORD OF CHANGES**

| No | Effective Date | Change Description | Reason | Reviewer | Approver |
|---|---|---|---|---|---|
| 1. | 01/Oct/2018 | Create new | Draft | | |
| 2. | 01/Jun/2019 | Update template | Fsoft template | DieuNT1 | |
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# Contents


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| **CODE:** | **NPLC.Assignment2** |
| **TYPE:** | **MEDIUM** |
| **LOC:** | **190** |
| **DURATION:** | **90 MINUTES** |

# Day 2: C# Basic Project Practice

**Objectives:**

- Understand and practice with Classes, Object, Access Modifier, Constructors, supper class, this keyword.
- Practice code in Visual Studio.
- Follow coding convention.

**Business needs:**

- TBD

**Prerequisites:**

- Working environment: Visual Studio 2022 or higher.Practice code in Visual Studio
- Each exercise is one project inside 1 solution.

**Technologies:**

The product implements one or more technology:

- C# Basic
- Control of Flows
- OOP

## 1. Exercise 1:

Create a class called **Book** to represent a book. A Book should include four pieces of information as:

- instance variables-a book name.
- an ISBN number.
- an author name and a publisher.

Your class should have a constructor that initializes the four instance variables.

In addition, provide a method named **GetBookInformation** that returns the description of the book as a String (the description should include all the information about the book). You should use *this* keyword in member methods and constructor.

**Estimated time**: 30 mins

## 2. Exercise 2

Create a class called **Employee** that includes three pieces of information as instance variables:

- a first name (type String),
- a last name (type String) and.
- a monthly salary (double)

Your class should have a constructor that initializes the three instance variables. Provide a set and a get method for each instance variable. If the monthly salary is not positive, set it to 0.0.

**Estimated time**: 30 mins

## 3. Exercise 3

Create a class called **Car** that includes three pieces of information as instance variables

- Decimal speed;
- Double regularPrice;
- String color;
- Double GetSalePrice();

Create a sub-class of Car class and name it as **Truck**. The Truck class has the following fields and methods:

- Int weight;
- double GetSalePrice(); //If weight>2000,10% discount. Otherwise, 20% discount

Create a sub-class of Car class and name it as **Ford**. The Ford class has the following fields and methods.

- Int year;
- Int manufacturerDiscount;
- double GetSalePrice(); //From the sale price computed from Car class, subtract the manufacturer Discount

Create a sub-class of Car class and name it as **Sedan**. The Sedan class has the following fields and methods.

- Int length;
- double GetSalePrice(); // If length > 20 feet, 5% discount. Otherwise, 10% discount.

Create MyOwnAutoShop class which contains the main() method. Perform the following within the main() method.

- Create an instance of Sedan class and initialize all the fields with appropriate values. Use base(...) method in the constructor for initializing the fields of the super class;
- Create two instances of the Ford class and initialize all the fields with appropriate values. Use base(...) method in the constructor for initializing the fields of the super class;

- Create two instances of Truck class and initialize all the fields with appropriate values. Use base(...) method in the constructor for initializing the fields of the super class.

**Display the sale prices of all instance.**

**Estimated time**: 30 mins