18CS2028 – C# and .Net Programming Lab

Exercise 2

Console Application using Class and Object

Objective:

To develop C# Console application using classes and objects, constructors, setter and getter methods.

Description:
https://www.javatpoint.com/c-sharp-object-and-class
https://www.w3schools.com/cs/cs_classes.php
https://www.w3schools.com/cs/cs_class_members.php
https://www.w3schools.com/cs/cs_constructors.php
https://www.w3schools.com/cs/cs_access_modifiers.php

Question Allotment

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1	ULK20CO1002	URK20CO1017	URK20CO1042	URK20CS1010	URK20CS1040	URK20CS1073	URK20CS1089	URK20CS1109
2	URK20AI1016	URK20CO1025	URK20CO1048	URK20CS1017	URK20CS1043	URK20CS1075	URK20CS1090	URK20CS1111
3	URK20AI1035	URK20CO1033	URK20CO1049	URK20CS1023	URK20CS1058	URK20CS1077	URK20CS1095	URK20CS1115
4	URK20CO1008	URK20CO1036	URK20CS1002	URK20CS1032	URK20CS1063	URK20CS1081	URK20CS1096	URK20CS1116
5	URK20CO1010	URK20CO1038	URK20CS1004	URK20CS1034	URK20CS1065	URK20CS1082	URK20CS1099	URK20CS1119
6	URK20CO1011	URK20CO1040	URK20CS1005	URK20CS1037	URK20CS1069	URK20CS1084	URK20CS1105	
7	URK20CO1015	URK20CO1041	URK20CS1009	URK20CS1039	URK20CS1070	URK20CS1088	URK20CS1108	

QUESTIONS

1. Design a Book Management Application by creating class Book with **private** instance variables: **title, author**, **price**. Include the necessary Constructors and **Setter** and **Getter** methods for manipulating individual data.
Write a separate class BookDemo with a main() method to perform the following

A) Create a Book object and store the data
B) Search a book by title and display the details.
C) Edit the price book and display the updated data [get name of the book as input]

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2. Develop a Banking Application with following characteristics

- Design a class called **Account** with **private** object data such as accNumber, accName, blanceAmount and add necessary constructors to initialize the object data.
- Include necessary setter methods to modify the object data and include the getter methods to access the object data.
- Add the following methods to carry out banking operations

  deposit(int accnumber, int amount),
  withdraw(int accnumber, int amount),
  viewBalance(int accnumber).

- Create separate class called **Banking** with main() method and perform the following functionalities.
    - Create an Account object and initialize data via input
    - Display the balance amount.
    - Deposit money (get accnumber and amount as input)
    - Withdraw Money (get accnumber and amount as input)

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3. Design a Contacts Management Application using classes and objects as per the following.

- Design a class **Contacts** with **private** data such as name, phone number, email, location.
- Include necessary constructors to initialize the data.
- Add instance methods such as setters and getters for modifying the object as well as retrieving the object data.
- Create a separate class called **ContactsApp** with main metho and perform the following activities
    - Create a Contact object and initialize data via input
    - Display the Phone Number for given Name
    - Edit the contact details by given Name
    - Display contact Details

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4. Develop a Bus Ticket Booking Application with the following constraints

- Design a class Bus with **private** instance data such as BusID, BusSource, BusDestination, NoOfSeats, and PricePerSeat.
- Include Necessary Constructors to initialize the object data.
- Add instance methods such setter methods and getter methods to modify and retrieve the values of object data.
- Create separate class **RedBus** with main() method and perform the following
    1. Create a Bus object and store data using input
    2. Display the Bus details
    3. Book Ticket (get Source, Destination and Number of Ticket as input) and print the Ticket

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5. Design an Employee Management System using classes and objects as per the following.

- Create a class Employee with **private** data such as empid, empname, designation, departmentname,salary.
- Include necessary constructor to initialize the employee data with user inputs.
- Add instance methods such as setter / getter methods to modify / access the data.
- Create separate class called College with proper main method to perform the following functionalities on Employee class.
    - Create a n Employee object and store the data
    - Display the Employee details (get employee id as input)
    - Edit an Employee detail

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6. Develop an application **Fruits Shopping** using the concept of classes and objects.

- Create a class called **Fruit** with **private** data such as name, type, price and available_quantity.
- Use constructors and getter/setter methods wherever necessary.
- Create another class **FruitShop** with main method to perform the following
  - Create a Fruit object and store the data via input
  - Search a Fruit details by name
  - Buy fruits (get no.of fruits as input) (update the respective quantity in the fruit object) and finally display the Bill of purchase with such as fruit name, quantity purchased, price per each item and total price)

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7. Develop an application to maintain the Movie Ticket Booking Application using the concept of classes and objects with following constraints.

- Create a class called Movie with **private** data such as name, theater **name, noofAvailabletickets, and cost.**
- Use constructors
- Add getter/setter methods for manipulating individual data.
- Create another class **MovieBooking** with main method to perform the following.
  - Create a Movie object and store the data via input.
  - Display the Movie details
  - Book Ticket for that movie (Get number of ticket as input) and display the Bill.
