Create a Person Information Management System Using Classes and Objects

Objective

Develop an application to practice object-oriented programming concepts such as classes, objects, properties, methods, and encapsulation

Task

1. Create a class Person with the following properties:

• PersonID (integer)

• Name (string)

• Age (integer)

• Address (string)

2. Add methods in the Person class for the following:

• Display the person's information

• Update the person's address

3. Create a class PersonManager to manage a list of persons with the following functionality:

• Add a new person

• Display all persons

• Search for a person by name or ID

• Update the address of a person using their ID

4. In the Main method:

• Instantiate the PersonManager class

• Provide a menu-driven interface to:

• Add a person

• View all persons

• Search for a person

• Update a person's address

Requirements

• Use encapsulation by making the properties private and providing public getters and setters

• Validate user input (e.g., ensure ID is unique, age is a positive integer)

• Use meaningful method names and comments for better code clarity

Example Output

Person Information Management System

1. Add a Person

2. Display All Persons

3. Search for a Person

4. Update Address

5. Exit

Enter your choice: 1

Enter Person ID: 101

Enter Name: John Doe

Enter Age: 30

Enter Address: 123 Elm Street

Person added successfully

Enter your choice: 2

PersonID: 101, Name: John Doe, Age: 30, Address: 123 Elm Street

Enter your choice: 4

Enter Person ID to update address: 101

Enter new address: 456 Oak Avenue

Address updated successfully

Enter your choice: 3

Enter Name to search: John Doe

PersonID: 101, Name: John Doe, Age: 30, Address: 456 Oak Avenue

Deliverables

Submit a .cs file with the complete program. Ensure the code is:

• Well-commented

• Properly formatted for readability