PROJECT DESCRIPTION

Design and develop a C# console application for a Store.

Roles

1. The store has <u>only one employee</u> with the following characteristics:
   - Unique Id
   - Password
2. The store has a capacity for 10 clients with the following characteristics:
   - Unique Id (a number between 100000 and 999999)
   - First Name
   - Last Name
   - Password (with a minimum size of 6 characters and a maximum of 10)

Products:

1. The store has a capacity for 100 products. Each product has:
   - Unique Id (a number between 100000 and 999999)
   - Name
   - Unit Price
   - Quantity Available
2. Each time a client buy products, the app save some information about the purchase:
   - Client (with all their attributes)
   - All the Products (with all their attributes and quantity)
   - Subtotal
   - Taxes
   - Total Price

Services:

1. **Inventory (Employee)**
   a. The employee can manage products accessing the application with their unique Id and password.
   b. An employee should be able to create, list, and modify (not the ID).
2. **Sale products (Employee)**
   a. Only employees can sell products accessing the application with their unique id and password
   b. The employee only can sell products that that are available (with a quantity greater than zero).
   c. The system should calculate the final price according to the product price and quantity.
   d. The system should save all the sales made.
   e. An employee can list all the sales and get the total of sales ($).
3. **Manage Clients (Employee)**
   a. The employee can manage clients accessing the application with their unique Id and password.
   b. An employee should be able to create, list and modify clients.

4. **Display information (Client)**
   a. The client can access the application with their unique Id and password.
   b. The clients should be able to consult all the products available in the store.
   c. The clients should be able to consult all the purchases made by themselves.

Required functionalities

➢ **Default data**
   In order to test the program, the application must create as default:
   1. one employee: The default employee has an ID: 111111 and Password: "tester".
   2. 10 products
   3. 1 client

- ➢ **Menus**

  The program has three menus
  1. Main Menu: to select the role of the user that is using the app (employee or client) and exit the application.
  2. Employee Menu: to execute employee's functionalities
  3. Client Menu: to execute client's functionalities

- ➢ **Main Menu**
  1. Sign In
  2. Exit Application

  You must implement each of these functionalities.

- ➢ **Clients Functionalities**

  The program should display a menu with the following options:
  1. Display all the products
  2. Display all my purchases
  3. Sign Out: to return to the main menu

  You must implement each of these functionalities.

- ➢ **Employees functionalities**

  The program should display a menu with the following options:
  1. Create products
  2. Modify one product
  3. Display all the products sorted by ID
  4. Create a client
  5. Modify a client
  6. Display all the clients sorted by ID
  7. Sell
  8. Display all the sales
  9. Display total of sales
  10. Sign Out: to return to the main menu

  You must implement each of these functionalities.

Optional functionalities (Bonus)

- ➢ The employee can find a product by name or ID to modify it (10 points)
- ➢ Display the name of the employee and the name of the client after signing in (5 points)
- ➢ Display the current date in the employee and client menu (2 points)
- ➢ The employee can remove one product from the stock and allow to create a new product in the freed space. (15 points)

Remarks:
1. You must rely <u>only on techniques and concepts taught in this course</u>.
2. All input must be validated.
3. Each task out of the various functionalities should be delegated to an appropriate function.

Mark Breakdown

This project evaluation is on 100 points, distributed as follows:

Element(s) of the competency	Evaluation Criteria	Requirements	Weight
1,2 and 3	1. Data validation	Be sure no invalid data has been entered into the application	5
1 and 2	2. User Interface	• Easy navigation • Clear instructions • No spelling mistakes: All text displayed to the screen should be well arranged and written in proper English. • Elegant error messages	5
1,2 and 3	3. Source Code	<table><tr><td>Criteria</td><td>Value</td></tr><tr><td>Respect submission specifications</td><td>1</td></tr><tr><td>Program compiles and executes</td><td>1</td></tr><tr><td>Structure of the code</td><td>2</td></tr><tr><td>Documentation of functions</td><td>2</td></tr><tr><td>Naming Conventions: Consistent</td><td>2</td></tr><tr><td>Organization of the source code</td><td>2</td></tr><tr><td>Complete implementation of the Clients Functionalities</td><td>10</td></tr><tr><td>Complete implementation of the employees Functionalities</td><td>36</td></tr><tr><td>Menus</td><td>2</td></tr><tr><td>Readme file</td><td>2</td></tr></table>	50
• Critical thinking • Methodical, analytical and synthesis spirit • Autonomy • Initiative • Time management	4. Teamwork and Demo	• Separated work evenly between the team members • Communication between members • Checkpoint (December 1st) • Final Presentation	40

Useful Links:
- What is and how to create a README file: https://www.makeareadme.com/
- How to document functions: https://learn.microsoft.com/en-us/dotnet/csharp/language-reference/language-specification/documentation-comments