

-Product Stock Tracking System -

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1) A product struct is a structure that contains the properties of each product element. This structure contains information such as an ID, name, unit and quantity for each product. The structure is defined by the data types containing these properties and provides access to these properties for each product element. This structure is used to store and process the information of the products.

```
// Product structure
struct Product {
    int id;
    char name[50];
    char unit[50];
    int quantity;
};
```

2) "products.txt" file contains the contents of the "txt" file in a format in which the properties of the product, such as ID, name, unit and quantity, are separated by commas on each line. This file is used to store information about products in an orderly manner, and all the features of a product are sorted on each line. This layout of the file allows the program to store and process products in the structure by reading data from the file.



products.txt - Not Defteri

Dosya Düzen Biçim Görünüm Yardım

```
100,Oil,5kg,25
101,Milk,1kg,30
102,Milk,200ml,50
103,Egg,10 pieces,24
104,Cottage Cheese, 200 gr,15
200,Lavender Liquid Soap,1 kg, 10
201,Rose Liquid Soap,1kg, 12
202,Dalin Shampoo, 400gr, 8
203,Dalin Shampoo, 600gr, 12
204,Omo Washing Powder, 7kg,26
205,Finish Dishwasher Detergent,78 pieces, 18
```

3) The "Search for product with name" option allows the user to enter a product name. The product name entered by the user is searched among the available products, and the matching products are listed. This process allows the user to quickly find a desired product and complements the user-friendly interface of the program.

4) The user is expected to enter a number to select the desired operation, and the program performs the corresponding operation according to the selected operation. This interface helps the user to easily select the desired operation and understand the functionality of the program.

```
--- Product Stock Tracking System ---
1. Add a new product
2. Update a product
3. Search for product with name
4. Increase quantity of a product
5. Decrease quantity of a product
6. List all products
7. Exit / Quit the program
-----
Enter your choice (1-6):
```

5) At this step, the program instructs the user to enter information about a new product. The user is asked to enter information such as the ID, name, unit and quantity of the product. Then, this entered information is added to the product line by creating a new product. This process allows the user to add new products, and a new entry is added to the list of existing products.

```
--- Product Stock Tracking System ---
1. Add a new product
2. Update a product
3. Search for product with name
4. Increase quantity of a product
5. Decrease quantity of a product
6. List all products
7. Exit / Quit the program
-----
Enter your choice: 1
Adding a new product...
Enter product ID: 212
Enter product name: Tea
Enter product unit: 250g
Enter product quantity: 24
Product added successfully.

--- Product Stock Tracking System ---
1. Add a new product
2. Update a product
3. Search for product with name
4. Increase quantity of a product
5. Decrease quantity of a product
6. List all products
7. Exit / Quit the program
-----
Enter your choice: 6

--- List of All Products ---
ID: 100, Name: Oil, Unit: 5kg, Quantity: 25
ID: 101, Name: Milk, Unit: 1kg, Quantity: 30
ID: 102, Name: Milk, Unit: 200ml, Quantity: 50
ID: 103, Name: Egg, Unit: 10 pieces, Quantity: 24
ID: 104, Name: Cottage Cheese, Unit: 200 gr, Quantity: 15
ID: 200, Name: Lavender Liquid Soap, Unit: 1 kg, Quantity: 10
ID: 201, Name: Rose Liquid Soap, Unit: 1kg, Quantity: 12
ID: 202, Name: Dalin Shampoo, Unit: 400gr, Quantity: 8
ID: 203, Name: Dalin Shampoo, Unit: 600gr, Quantity: 12
ID: 204, Name: Omo Washing Powder, Unit: 7kg, Quantity: 26
ID: 205, Name: Finish Dishwasher Detergent, Unit: 78 pieces, Quantity: 18
ID: 212, Name: Tea, Unit: 250g, Quantity: 24
-----
```

6) In this step, when the user chooses to update a product, the program will ask the user for the number of the product that needs to be updated. After the user enters the number of the product to be updated, he is prompted to enter the new product information. Then, the product in the product series with the specified product number is updated. This process allows the user to update a specific product among the existing products. The updated product list is displayed to the user along with the updated information.

```
--- List of All Products ---
ID: 100, Name: Oil, Unit: 5kg, Quantity: 25
ID: 101, Name: Milk, Unit: 1kg, Quantity: 30
ID: 102, Name: Milk, Unit: 200ml, Quantity: 50
ID: 103, Name: Egg, Unit: 10 pieces, Quantity: 24
ID: 104, Name: Cottage Cheese, Unit: 200 gr, Quantity: 15
ID: 200, Name: Lavender Liquid Soap, Unit: 1 kg, Quantity: 10
ID: 201, Name: Rose Liquid Soap, Unit: 1kg, Quantity: 12
ID: 202, Name: Dalin Shampoo, Unit: 400gr, Quantity: 8
ID: 203, Name: Dalin Shampoo, Unit: 600gr, Quantity: 12
ID: 204, Name: Omo Washing Powder, Unit: 7kg, Quantity: 26
ID: 205, Name: Finish Dishwasher Detergent, Unit: 78 pieces, Quantity: 18
```

```
--- Product Stock Tracking System ---
1. Add a new product
2. Update a product
3. Search for product with name
4. Increase quantity of a product
5. Decrease quantity of a product
6. List all products
7. Exit / Quit the program
-----
Enter your choice (1-6): 2
Updating a product...
Enter product ID to update: 204
Choose which field to update:
1. Id
2. Name
3. Unit
4. Quantity
Enter your choice (1-4): 4
Enter new quantity: 32
Product updated successfully.
```

```
--- List of All Products ---
ID: 100, Name: Oil, Unit: 5kg, Quantity: 25
ID: 101, Name: Milk, Unit: 1kg, Quantity: 30
ID: 102, Name: Milk, Unit: 200ml, Quantity: 50
ID: 103, Name: Egg, Unit: 10 pieces, Quantity: 24
ID: 104, Name: Cottage Cheese, Unit: 200 gr, Quantity: 15
ID: 200, Name: Lavender Liquid Soap, Unit: 1 kg, Quantity: 10
ID: 201, Name: Rose Liquid Soap, Unit: 1kg, Quantity: 12
ID: 202, Name: Dalin Shampoo, Unit: 400gr, Quantity: 8
ID: 203, Name: Dalin Shampoo, Unit: 600gr, Quantity: 12
ID: 204, Name: Omo Washing Powder, Unit: 7kg, Quantity: 32
ID: 205, Name: Finish Dishwasher Detergent, Unit: 78 pieces, Quantity: 18
```

7) In this step, when the user chooses to search for products by name, the program asks the user to enter the name of the product he wants to search for. Then, it searches for matching products in the product line according to the entered name. The matching products are then shown to the user. This process allows the user to find and list products that match a specific product name.

```
--- Product Stock Tracking System ---
1. Add a new product
2. Update a product
3. Search for product with name
4. Increase quantity of a product
5. Decrease quantity of a product
6. List all products
7. Exit / Quit the program
-----
Enter your choice (1-6): 3
Searching for a product by name...
Enter the name of the product to search: Milk

--- Search Results ---
ID: 101, Name: Milk, Unit: 1kg, Quantity: 30
ID: 102, Name: Milk, Unit: 200ml, Quantity: 50
-----
```

8) In this step, when the user selects the option to increase or decrease the amount of the product, the program asks the user to enter the ID of the product for which he wants to increase or decrease the amount. After entering the product ID, the user enters the desired amount to increase or decrease the amount. For the quantity increase process, the product quantity is increased by the specified amount, while for the quantity reduction process, the product quantity is reduced by the specified amount. This process responds to the user's request to increase or decrease the amount of products.

```
--- Product Stock Tracking System ---
1. Add a new product
2. Update a product
3. Search for product with name
4. Increase quantity of a product
5. Decrease quantity of a product
6. List all products
7. Exit / Quit the program
-----
Enter your choice (1-6): 4
Increasing quantity of a product...
Enter the ID of the product to increase quantity: 204
Enter the quantity to increase: 4
Quantity of product with ID 204 increased by 4. New quantity of Omo Washing Powder: 30
```

```
--- Product Stock Tracking System ---
1. Add a new product
2. Update a product
3. Search for product with name
4. Increase quantity of a product
5. Decrease quantity of a product
6. List all products
7. Exit / Quit the program
-----
Enter your choice (1-6): 5
Decreasing quantity of a product...
Enter the ID of the product to decrease quantity: 104
Enter the quantity to decrease: 5
Quantity of product with ID 104 decreased by 5. New quantity of Cottage Cheese: 10
```

9) In this step, when the user selects the option to list all products, the program lists all available products. The ID, name, unit and quantity of each product are listed. Each product in this list is displayed on a separate line and the user is presented with a complete list of available products.

```
--- Product Stock Tracking System ---
1. Add a new product
2. Update a product
3. Search for product with name
4. Increase quantity of a product
5. Decrease quantity of a product
6. List all products
7. Exit / Quit the program
-----
Enter your choice (1-6): 6

--- List of All Products ---
ID: 100, Name: Oil, Unit: 5kg, Quantity: 25
ID: 101, Name: Milk, Unit: 1kg, Quantity: 30
ID: 102, Name: Milk, Unit: 200ml, Quantity: 50
ID: 103, Name: Egg, Unit: 10 pieces, Quantity: 24
ID: 104, Name: Cottage Cheese, Unit: 200 gr, Quantity: 10
ID: 200, Name: Lavender Liquid Soap, Unit: 1 kg, Quantity: 10
ID: 201, Name: Rose Liquid Soap, Unit: 1kg, Quantity: 12
ID: 202, Name: Dalin Shampoo, Unit: 400gr, Quantity: 8
ID: 203, Name: Dalin Shampoo, Unit: 600gr, Quantity: 12
ID: 204, Name: Omo Washing Powder, Unit: 7kg, Quantity: 30
ID: 205, Name: Finish Dishwasher Detergent, Unit: 78 pieces, Quantity: 18
-----
```

10) When the user selects the "Exit" option, the program ends and a goodbye message is shown to the user. When the program is terminated, the user is informed that it was successfully logged out and the program closes.