Faculty of Engineering and Technology

Electrical and Computer Engineering Department

LINUX LABORATORY

E-commerce System

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Project Overview:

This project focuses on developing an efficient online shopping system that caters to two key user roles: administrators in charge of supervising the store's operations and shoppers who explore and make purchases. The system is meant to provide a variety of specific functions, with certain activities restricted to administrators only. Admin-only features include the ability to add new products, sell items, manage product details, create user accounts, update user information, examine a full user list, execute and finalize orders, and save product and user data to files.

Shoppers, on the other hand, have access to a specific set of actions that are targeted to their needs. They can add preferred products to their shopping baskets, evaluate the contents of their baskets, make changes to their basket selections, and place orders for their chosen items. Furthermore, both administrators and shoppers have access to shared tasks such as listing available products, while listing shoppers is only available to administrators.
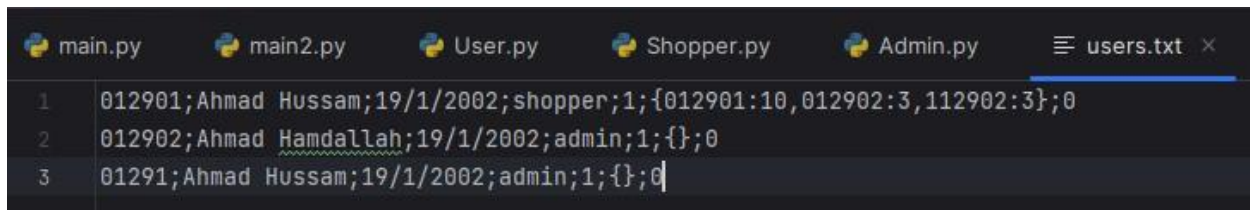
To begin utilizing the system, it imports product and user data from text files, and each user must provide their user ID. If the entered ID is not discovered in the system, access is blocked immediately. Overall, this system provides a comprehensive solution for managing an online store, allowing administrators to regulate products and users while allowing customers to smoothly browse, shop, and manage their orders.
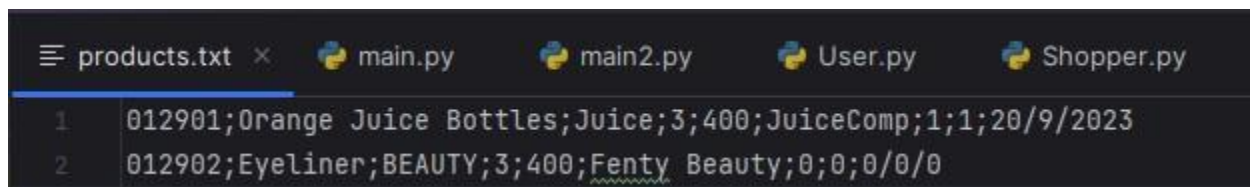
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In beginning the program
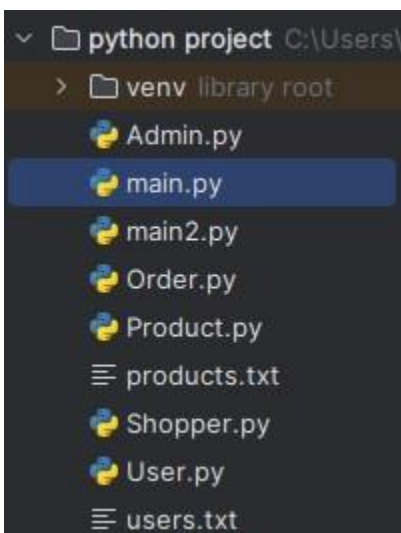
```
"C:\Users\saad\Desktop\python project\venv\Scripts\python.exe" "C:\Users\saad\Deskt
For user 012901, product 112902 is not existed in the product list!
-----------------------------------------
The id 01291 is not accepted, it should ba a 6-digit unique code for the user
-----------------------------------------
E-commerce System!
----- Log in -----
Enter your ID:
```

main.py	main2.py	User.py	Shopper.py	Admin.py	users.txt ×

```
1    012901;Ahmad Hussam;19/1/2002;shopper;1;{012901:10,012902:3,112902:3};0
2    012902;Ahmad Hamdallah;19/1/2002;admin;1;{};0
3    01291;Ahmad Hussam;19/1/2002;admin;1;{};0
```

products.txt ×	main.py	main2.py	User.py	Shopper.py

```
1    012901;Orange Juice Bottles;Juice;3;400;JuiceComp;1;1;20/9/2023
2    012902;Eyeliner;BEAUTY;3;400;Fenty Beauty;0;0;0/0/0
```

```
✓ 🗁 python project  C:\Users\
   > 🗁 venv  library root
     🐍 Admin.py
     🐍 main.py
     🐍 main2.py
     🐍 Order.py
     🐍 Product.py
     ≡ products.txt
     🐍 Shopper.py
     🐍 User.py
     ≡ users.txt
```

```
----- Log in -----
Enter your ID:012902
Welcome Admin Ahmad Hamdallah
----------------------- Menu ------------------------
1) Add product.
2) Place an item on sale.
3) Update product.
4) Add a new user.
5) Update user.
6) Display all users.
7) List products.
8) List shoppers.
9) Add product to the basket.
10) Display basket.
11) Update basket.
12) Place order.
13) Execute order.
14) Save products to a file.
15) Save users to a text file.
16) Exit the program.
-----------------------------------------
Enter your choice:11
You can not do this option Ahmad Hamdallah, because you are an admin!
```

Functions:

1. Add product (admin-only)
To add a product to the system, the admin must insert information.

```
Enter your choice:1
Enter product ID:012902
Please check the ID!
Enter product ID:112233
Enter name of product to be added: orange
Enter Product category: fruit
Enter Price: 3
Enter Inventory: 22
Enter Supplier: farm
Enter 1 if the product has an offer or 0 if the product has no offer: 0
Product added successfully!
```

```
Enter your choice:1
Enter product ID:223344
Enter name of product to be added: phone
Enter Product category: electronics
Enter Price: 100
Enter Inventory: 22
Enter Supplier: comp
Enter 1 if the product has an offer or 0 if the product has no offer: 1
Enter offer price: 50
Enter the date the offer is valid (Day/Month/Year): 3/11/2023
Product added successfully!
```

2. Place an item on sale (admin-only)
After selecting a specific product, the admin can place an item on sale using this option.

```
Enter your choice:2
Enter product id: 012902
Enter new Offer Price:2
Enter the date the offer is valid (Day/Month/Year): 2/10/2023
Product Placed on sale successfully!
```

3. Update product (admin-only)

The admin needs to select a product based on its code and has the option to update any field of the product other than the product code. The admin may use this option to add an offer on an existing product.

```
Enter your choice:3
Enter product id that do you want to update:012901
1.Product Name
2.Category
3.Price
4.Inventory
5.Supplier
6.has_an_offer
7.Offer Price
8.Valid Until

Enter the number of field do you want to update:
1
Enter new name:OrangApple
```

```
-------------------------------------------
Enter your choice:1
Product ID: 012901
Product Name: OrangApple
Product Category: Juice
Price: 3
Inventory: 400
Supplier: JuiceComp
has_an_offer: 1
Offer Price: 1
Valid Until: 20/09/2023
-------------------------------------------
```

4. Add a new user (admin-only)

To add a user to the system, the admin must insert the information.

```
Enter your choice:4
Enter user ID:012901
Please check the ID!
Enter user ID:665544
Enter name of user: Raneem Dunia
Enter date of birth: 2/11/2002
Enter Role(Shopper/Admin): admin
Enter 1 for active user, otherwise not active: 1
Enter a dictionary (in JSON format) {'product IDs': quantities}: {"012901":3}
Enter 1 if the user finished adding items to the basket and wants to make an order,otherwise 0: 1
new user added successfully!
```

```
------------------------------------------
Admin ID: 665544
Admin Name: Raneem Dunia
Date of Birth: 2002-11-02 00:00:00
Active: 1


------------------------------------------
```

5. Update user (admin-only)

The admin needs to select a user based on its code and has the option to update any field other than the user code.

```
Enter your choice:5
Enter user id that do you want to update information: 012912
1.User Name
2.date of birth
3.Role
4.Basket
5.Active
6.Order

Enter the number of field do you want to update:
6
Enter 1 if the user finished adding items to the basket and wants to make an order,otherwise 0: 1
```

```
Shopper ID: 012912
Shopper Name: Raneem
Date of Birth: 19/01/2002
Active: 1
Basket: {}
Order: 1
```

6. Display all users (admin-only)

Using this option, the admin can display the information of all users on the screen.

```
≡ products.txt        main.py         main2.py        User.py        Shopper.py

1    012901;Ahmad Hussam;19/1/2002;shopper;1;{012901:10,012902:3,112902:3};0
2    012902;Ahmad Hamdallah;19/1/2002;admin;1;{};0
3    012912;Raneem;19/1/2002;shopper;1;{};0
4    01291;Ahmad Hussam;19/1/2002;admin;1;{};0
```

```
Enter your choice:6
Shopper ID: 012901
Shopper Name: Ahmad Hussam
Date of Birth: 19/01/2002
Active: 1
Basket: {'012901': 10, '012902': 3}
Order: 0

-------------------------------------------
Admin ID: 012902
Admin Name: Ahmad Hamdallah
Date of Birth: 19/01/2002
Active: 1

-------------------------------------------
Shopper ID: 012912
Shopper Name: Raneem
Date of Birth: 19/01/2002
Active: 1
Basket: {}
Order: 1
```

7. List products (admin and shopper)

Using this option, the admin and shopper can display all the information of products in the E-commerce system on the screen based on specific criteria.

Option 1)

```
Enter your choice:7
-------------------------------------------
1) List all products.
2) List all products that have discount.
3) List products according to category.
3) List products according to product name.
-------------------------------------------
Enter your choice:1
Product ID: 012901
Product Name: Orange Juice Bottles
Product Category: Juice
Price: 3
Inventory: 400
Supplier: JuiceComp
has_an_offer: 1
Offer Price: 1
Valid Until: 20/09/2023
-------------------------------------------
Product ID: 012902
Product Name: Eyeliner
Product Category: BEAUTY
Price: 3
Inventory: 400
Supplier: Fenty Beauty
has_an_offer: 0
Offer Price: 0
Valid Until: 0/0/0
```

Option 2)

```
-----------------------------------------
Enter your choice:7
-----------------------------------------
1) List all products.
2) List all products that have discount.
3) List products according to category.
3) List products according to product name.
-----------------------------------------
Enter your choice:2
Product ID: 012901
Product Name: Orange Juice Bottles
Product Category: Juice
Price: 3
Inventory: 400
Supplier: JuiceComp
has_an_offer: 1
Offer Price: 1
Valid Until: 20/09/2023
-----------------------------------------
```

Option 3)

```
Enter your choice:7
-----------------------------------------
1) List all products.
2) List all products that have discount.
3) List products according to category.
4) List products according to product name.
-----------------------------------------
Enter your choice:3
Enter the name of category:beauty
Product ID: 012902
Product Name: Eyeliner
Product Category: BEAUTY
Price: 3
Inventory: 400
Supplier: Fenty Beauty
has_an_offer: 0
Offer Price: 0
Valid Until: 0/0/0
-----------------------------------------
```

Option 4)

```
Enter your choice:7
-------------------------------------------
1) List all products.
2) List all products that have discount.
3) List products according to category.
4) List products according to product name.
-------------------------------------------
Enter your choice:4
Enter the product name:Eyeliner
Product ID: 012902
Product Name: Eyeliner
Product Category: BEAUTY
Price: 3
Inventory: 400
Supplier: Fenty Beauty
has_an_offer: 0
Offer Price: 0
Valid Until: 0/0/0
-------------------------------------------
```

8. List shoppers (admin)

Using this option, the admin can display all the information of shoppers in the E-commerce system on the screen based on specific criteria.

1)

```
------------------------------------------
Enter your choice:8
------------------------------------------
1) List all shoppers.
2) List all shoppers that have added products for purchase to the basket.
3) List all shoppers that have an order that needs to be processed.
------------------------------------------
Enter your choice:1
Shopper ID: 012901
Shopper Name: Ahmad Hussam
Date of Birth: 19/01/2002
Active: 1
Basket: {'012901': 10, '012902': 3}
Order: 0


------------------------------------------
Shopper ID: 012912
Shopper Name: Raneem
Date of Birth: 19/01/2002
Active: 1
Basket: {}
Order: 0
```

2)

```
Enter your choice:8
------------------------------------------
1) List all shoppers.
2) List all shoppers that have added products for purchase to the basket.
3) List all shoppers that have an order that needs to be processed.
------------------------------------------
Enter your choice:2
Shopper ID: 012901
Shopper Name: Ahmad Hussam
Date of Birth: 19/01/2002
Active: 1
Basket: {'012901': 10, '012902': 3}
Order: 0


------------------------------------------
```

3)

```
------------------------------------------
Enter your choice:8
------------------------------------------
1) List all shoppers.
2) List all shoppers that have added products for purchase to the basket.
3) List all shoppers that have an order that needs to be processed.
------------------------------------------
Enter your choice:3
Shopper ID: 012912
Shopper Name: Raneem
Date of Birth: 19/01/2002
Active: 1
Basket: {'012901': 10}
Order: 1


------------------------------------------
```

9. Add product to the basket (shopper-only)

Using this option, the shopper can add products to the basket. Products are added based on product id. The shopper must decide the product quantity (number of items from the product) to be added.

```
Enter your choice:9
Welcome Shopper Raneem
-----------------------------------------
Product ID: 012901
Product Name: Orange Juice Bottles
Product Category: Juice
Price: 3
Inventory: 400
Supplier: JuiceComp
has_an_offer: 1
Offer Price: 1
Valid Until: 20/09/2023
-----------------------------------------
Product ID: 012902
Product Name: Eyeliner
Product Category: BEAUTY
Price: 3
Inventory: 400
Supplier: Fenty Beauty
has_an_offer: 0
Offer Price: 0
Valid Until: 0/0/0
-----------------------------------------
Enter product ID:012902
Enter the number of items:4
```

10. Display basket (shopper-only)

Using this option, the shopper can display the products in the basket. In addition to the product details, the system must print on screen the cost of purchase of the product (the price of the product x number of items) and the total cost of the items in the basket.

```
Enter your choice:10
Product ID: 012901
Product Name: Orange Juice Bottles
Product Category: Juice
Price: 3
Inventory: 400
Supplier: JuiceComp
has_an_offer: 1
Offer Price: 1
Valid Until: 20/09/2023
Number of items: 4
Cost of purchase of the product: 4

Basket Cost =  4
```

11. Update basket (shopper-only)

Using this option, the shopper can update the basket.

```
Enter your choice:11
Current Basket:
Product ID: 012901
Product Name: Orange Juice Bottles
Product Category: Juice
Price: 3
Inventory: 400
Supplier: JuiceComp
has_an_offer: 1
Offer Price: 1
Valid Until: 20/09/2023
Number of items: 4
Cost of purchase of the product: 4

Basket Cost =  4

1) Clear basket.
2) Remove basket.
3) Update basket.
-----------------------------------------
Enter your choice:3
Enter the Id of the product you want to update:5
Please check the id:
Enter the Id of the product you want to update:012901
Enter the new number of items:5
```

```
Enter your choice:10
Product ID: 012901
Product Name: Orange Juice Bottles
Product Category: Juice
Price: 3
Inventory: 400
Supplier: JuiceComp
has_an_offer: 1
Offer Price: 1
Valid Until: 20/09/2023
Number of items: 5
Cost of purchase of the product: 5

Basket Cost =  5
```

12. Place order (shopper-only)

Using this option, the shopper can request the purchase of items by changing the value of the order field as described before.

```
Enter your choice:12
Your basket:
Product ID: 012901
Product Name: Orange Juice Bottles
Product Category: Juice
Price: 3
Inventory: 400
Supplier: JuiceComp
has_an_offer: 1
Offer Price: 1
Valid Until: 20/09/2023
Number of items: 5
Cost of purchase of the product: 5

Basket Cost =  5


----------------------------------------
Confirm order (yes/no): yes
Order placed successfully!
```
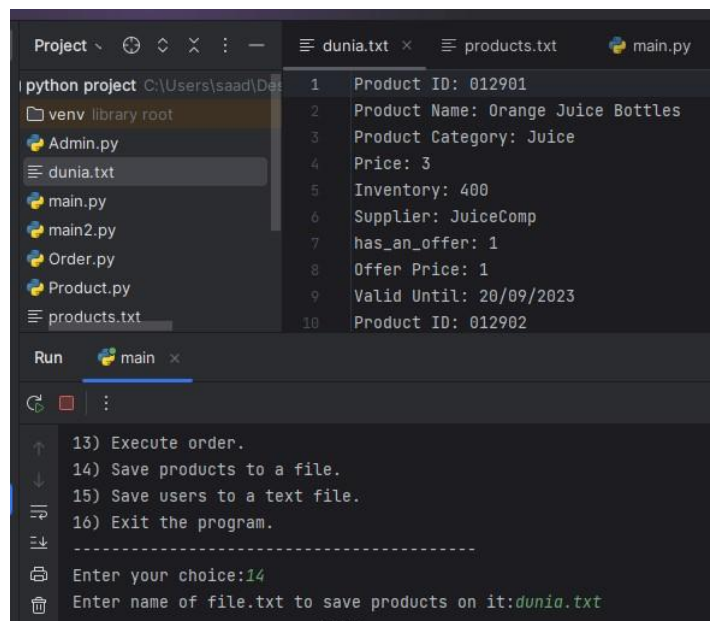
13. Execute order (admin-only)

Using this option, the admin can execute an order.


```
Enter your choice:13
You can not do this option Raneem, because you are an Shopper!
```



```
Enter your choice:13
------------------------------------------
Welcome Admin Ahmad Hamdallah
Enter user id: 012912
Please check the ID!
Enter your ID:012912
```

14. Save products to a file (admin-only)

Save the products including all fields described earlier to a text file. The system should ask the admin to input the name of the text file.
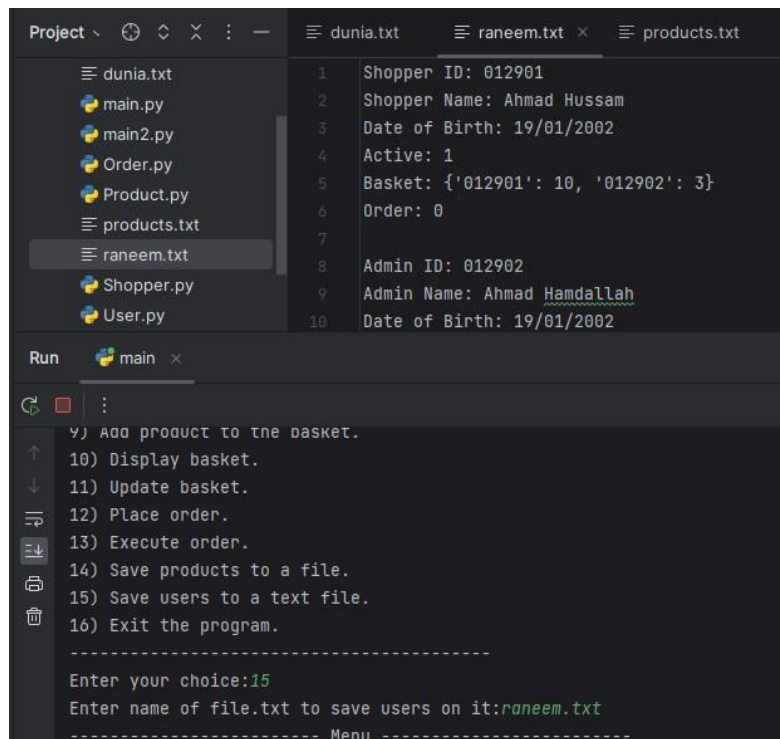
15. Save users to a text file (admin-only)

Save the users including all fields described earlier to a text file. The system should ask the admin to input the name of the text file.
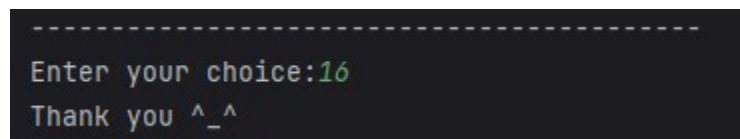
```
Project ∨  ⊕ ◇ ✕ ⋮ ─      ≡ dunia.txt      ≡ raneem.txt ✕      ≡ products.txt
    ≡ dunia.txt          1    Shopper ID: 012901
    🐍 main.py            2    Shopper Name: Ahmad Hussam
    🐍 main2.py           3    Date of Birth: 19/01/2002
    🐍 Order.py           4    Active: 1
    🐍 Product.py         5    Basket: {'012901': 10, '012902': 3}
    ≡ products.txt        6    Order: 0
    ≡ raneem.txt          7
    🐍 Shopper.py         8    Admin ID: 012902
    🐍 User.py            9    Admin Name: Ahmad Hamdallah
                         10    Date of Birth: 19/01/2002

Run    🐍 main ✕

G  ⬛  ⋮
↑      9) Add product to the basket.
       10) Display basket.
↓      11) Update basket.
⇥     12) Place order.
≡↓    13) Execute order.
🖨     14) Save products to a file.
🗑     15) Save users to a text file.
       16) Exit the program.
       ------------------------------------------
       Enter your choice:15
       Enter name of file.txt to save users on it:raneem.txt
       ----------------------- Menu -----------------------
```

16. Exit (admin and shopper)

The execution of this command will terminate the software. The system should ask the user to save products and users if the user hasn't done that already.

```
----------------------------------------------
Enter your choice:16
Thank you ^_^
```