

PL/SQL LAB
On

Submitted by

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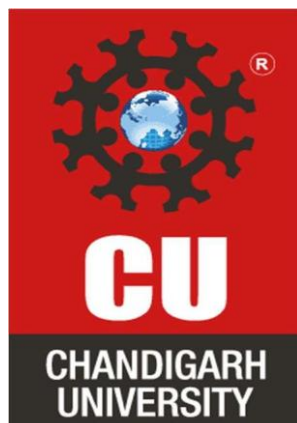
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Under the guidance of

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Partial fulfilment for the award of the degree of MASTER'S IN

PL/SQL LAB



Chandigarh University

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Sales and Inventory Management System

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Acknowledgement:

The purpose of the whole project is to create a system for an organization that will manage their sales and inventory records. The scope of the project is to give a simple and attractive application to simplify the work of administrators and employees of the organization.

This project is affiliated to a bakery. It will maintain bakery's sales and inventory's record. It will enable bakery's administrators and employees to maintain their record more efficiently and easily.

IMPLEMENTATION

Project's GUI is implemented using **Python** module Tkinter which has a **Database** at backend to maintain all records of the bakery. Project is implemented by using OOP Paradigm.

Database is implemented by a Python module Sqlite3. It is a SQL based database.

This project has two different account types, for bakery's administrator and for bakery's employee. Both accounts have different options according to their accessibility.

RELATIONAL DATA BASE DESIGN

➤ **Login**:- Login table is for keeping username, passwords and account type of users. Login table has three attributes -:

- Username (**Primary key**)
- Password (**Not Null**)
- Account type (**Not Null**)

Password and Account Type are mandatory fields.

➤ **Products**:- Product table is for keeping details of products in the bakery. Product table has 6 attributes:-

- Product id (**Primary key**)
- Product name (**Not Null**)
- Description
- Category
- Price (**Not Null**)
- Stock (**Not Null**)

Product Name, Price and Stock are mandatory fields.

➤ **Sales**:- Sales table is for keeping transaction records of the bakery. This table has 6 attributes:-

- Transaction id (**Primary key**)
- Invoice no. (**Not Null**)
- Product id (**Foreign key**)
- Quantity (**Not Null**)
- Date

- Time
Invoice no. and Quantity are mandatory fields.
Here Transaction no. is for transaction of product and Invoice no. is bill number.

These tables are in **3rd Normal form**.

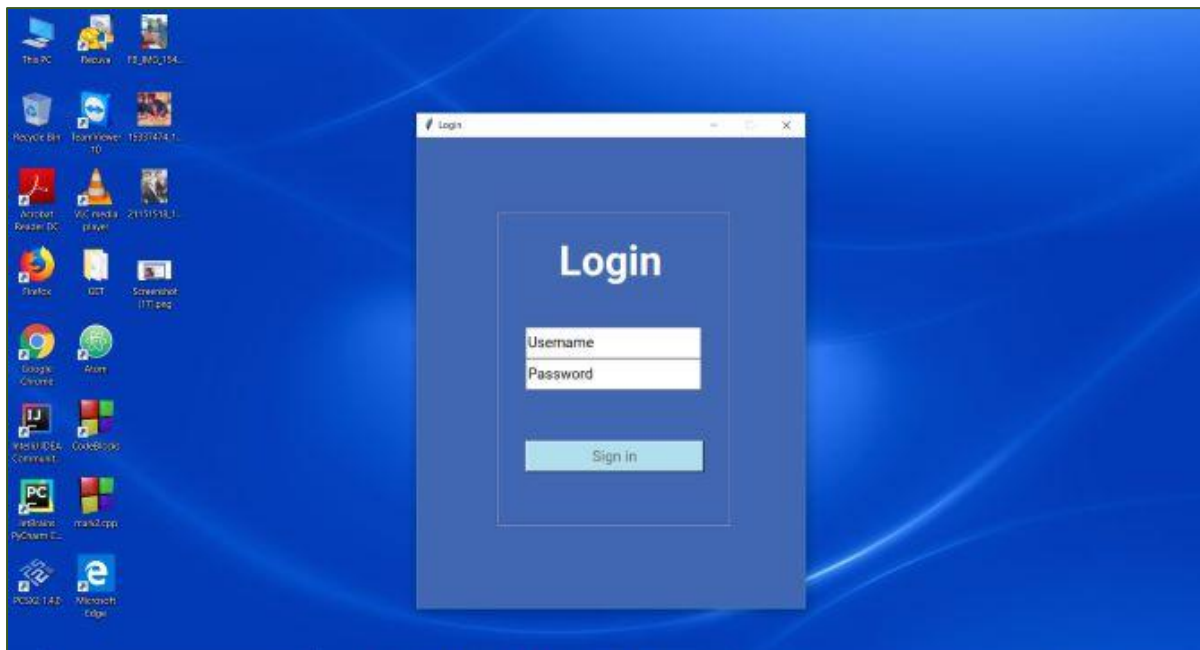
RUN PROGRAM

To run Program, you have to run **main.py** on shell.

LOGIN SCREEN

From this screen you can login in as bakery's administrator or bakery's employee. There are two different account types-:

- **Admin**-: This account is for bakery's administrators. Through this account you have rights to see every detail of the bakery. You can add or remove products, edit product details, check how sale is going in bakery, add or remove users, change their passwords and account types etc.
- **User**-: This a Limited access account. This account is for employees of the bakery. Through this account you can sell products, make transaction, can see current products in bakery etc.



To login in Admin type account-:

Username-> nikhil

Password-> 123456

To login in User type account-:

Username-> PJ

Password-> ADMIN

Username and Password are not case sensitive.
You can either click sign in button or press Enter to login.

ADMIN ACCOUNT

- **Inventory**:- An inventory window opens up. Through this window you can edit product details or add stock to the product or remove product that are out of stock. You can search in this table by product description.

Product ID	Product Name	Description	Category	Price	Stocks
100730	A & W	A & W ROOT BEER	SOFT DRINKS	60	32
100120	BROWNIES	BROWNIES	BREAD	50	60
100700	TORTILLAS	TORTILLAS PLAIN	SNACKS	10	61
100760	COOKIES	COOKIES	SNACKS	30	35
100280	COKE	COKEZERO	SOFT DRINKS	35	42
100720	KOPIKO	KOPIKO BROWN	COFFEE	25	63
100670	MOZILLA	MOZILLA CHESSE	DAIRY	20	55
100090	COBRA	COBRA YELLOW	SOFT DRINKS	35	44
100230	MAYONAISE	MAYONAISE GREEN	OTHERS	45	45
100510	PIATTOS	PIATTOS CHESSE	DAIRY	25	13
100930	NACHOS	NACHOS CHESSE	SNACKS	20	56
100110	MAGGI	MAGGI ATA	SNACKS	25	40
100220	BISCUITS	BISCUITS CHOCOLATE	SNACKS	15	55
100111	CROISSANT	CROISSANT	BREAD	50	37
100112	MUFFINS	MUFFINS VANILLA	BREAD	55	37
100550	CHEESE CAKE	CHEESE CAKE	DAIRY	35	37
100661	FRUIT CAKE	FRUIT CAKE MIXED	BREAD	40	34
100770	BUNS	BUNS	BREAD	40	31

You can select any row of the table the entry boxed will fill automatically.

The Bake Shop's Sales & Inventory System

Product Name: COOKIES
Description: COOKIES
Category: SNACKS
Price: 30
Current Stock: 35
Add Stock:

Update Remove

Product ID	Product Name	Description	Category	Price	Stocks
100730	A & W	A & W ROOT BEER	SOFT DRINKS	60	32
100120	BROWNIES	BROWNIES	BREAD	50	60
100700	TORTILLAS	TORTILLAS PLAIN	SNACKS	10	61
100760	COOKIES	COOKIES	SNACKS	30	35
100280	COKE	COKEZERO	SOFT DRINKS	35	42
100720	KOPIKO	KOPIKO BROWN	COFFEE	25	63
100670	MOZILLA	MOZILLA CHESSE	DAIRY	20	55
100090	COBRA	COBRA YELLOW	SOFT DRINKS	35	44
100230	MAYONAISE	MAYONAISE GREEN	OTHERS	45	45
100510	PIATTOS	PIATTOS CHESSE	DAIRY	25	13
100930	NACHOS	NACHOS CHESSE	SNACKS	20	56
100110	MAGGI	MAGGI ATA	SNACKS	25	40
100220	BISCUITS	BISCUITS CHOCOLATE	SNACKS	15	55
100111	CROISSANT	CROISSANT	BREAD	50	37
100112	MUFFINS	MUFFINS VANILLA	BREAD	55	37
100550	CHEESE CAKE	CHEESE CAKE	DAIRY	35	37
100661	FRUIT CAKE	FRUIT CAKE MIXED	BREAD	40	34
100770	BUNS	BUNS	BREAD	40	31

To update product detail just press update button. Table is dynamic in nature it will get automatically updated. To remove product just press remove button.

The Bake Shop's Sales & Inventory System

Product Name: WAFFLE
Description: CHOCOLATE WAFFLE
Category: BREAD
Price: 40
Current Stock: 30
Add Stock:

Update Remove

Alert! Do you want to remove product from inventory?
Yes No

Product ID	Product Name	Description	Category	Price	Stocks
100111	CROISSANT	CROISSANT	BREAD	50	37
100112	MUFFINS	MUFFINS VANILLA	BREAD	55	37
100550	CHEESE CAKE	CHEESE CAKE	DAIRY	35	37
100661	FRUIT CAKE	FRUIT CAKE MIXED	BREAD	40	34
100770	BUNS	BUNS	BREAD	40	31
100771	TOFFEES	TOFFEES	OTHERS	5	51
100671	RUSK	MILK RUSK	BREAD	10	50
100013	DONUTS	CHOCOLATE DONUTS	BREAD	40	58
100512	MENTOS	MENTOS LEMON	OTHERS	15	17
100116	PIE	APPLE PIE	BREAD	15	32
100210	WAFFLE	CHOCOLATE WAFFLE	BREAD	40	30

You can search Product by Description. Search Box is a suggestion box it will automatically provide suggestions to the user.

The screenshot shows the 'The Bake Shop's Sales & Inventory System' interface. The top navigation bar includes buttons for Items, Inventory, Sales, Profiles, Sign out, and Quit. The main area features a search bar with 'FRUIT CAKE MIXED' entered and a 'Reset' button. Below the search bar is a table of products with columns: Product ID, Product Name, Description, Category, Price, and Stocks. The table lists various products like MOZILLA, COBRA, MAYONAISE, PIATTOS, NACHOS, MAGGI, BISCUITS, CROISSANT, MUFFINS, CHEESE CAKE, FRUIT CAKE, BUNS, TOFFEES, RUSK, DONUTS, MENTOS, PIE, and WAFFLE. The 'Current Stock' and 'Add Stock' fields are visible on the left, along with 'Update' and 'Remove' buttons.

Product ID	Product Name	Description	Category	Price	Stocks
100670	MOZILLA	MOZILLA CHESSE	DAIRY	20	55
100090	COBRA	COBRA YELLOW	SOFT DRINKS	35	44
100230	MAYONAISE	MAYONAISE GREEN	OTHERS	45	45
100510	PIATTOS	PIATTOS CHESSE	DAIRY	25	13
100930	NACHOS	NACHOS CHESSE	SNACKS	20	56
100110	MAGGI	MAGGI ATA	SNACKS	25	40
100220	BISCUITS	BISCUITS CHOCOLATE	SNACKS	15	55
100111	CROISSANT	CROISSANT	BREAD	50	37
100112	MUFFINS	MUFFINS VANILLA	BREAD	55	37
100550	CHEESE CAKE	CHEESE CAKE	DAIRY	35	37
100661	FRUIT CAKE	FRUIT CAKE MIXED	BREAD	40	34
100770	BUNS	BUNS	BREAD	40	31
100771	TOFFEES	TOFFEES	OTHERS	5	51
100671	RUSK	MILK RUSK	BREAD	10	50
100013	DONUTS	CHOCOLATE DONUTS	BREAD	40	58
100512	MENTOS	MENTOS LEMON	OTHERS	15	17
100116	PIE	APPLE PIE	BREAD	15	32
100210	WAFFLE	CHOCOLATE WAFFLE	BREAD	40	30

To reset search option just press reset button.

- **Items-:** You can add items to the inventory through items button. Here Product id should be in numbers. Product id and product description should be unique. Press **add item** button to add item to the bakery or **Back** button to go back to the inventory.

Here Category search box is a suggestion box it will fill automatically and will give suggestion to the user.

The screenshot shows the 'The Bake Shop's Sales & Inventory System' interface with the 'Add item' form. The form includes fields for Product Id, Product Name, Description, Category, Price, and Stock. The 'Add item' and 'Back' buttons are visible at the bottom.

Product Id: 100290

Product Name: Garlic Bread

Description: Garlic Chesse Bread

Category: BREAD

Price: 15

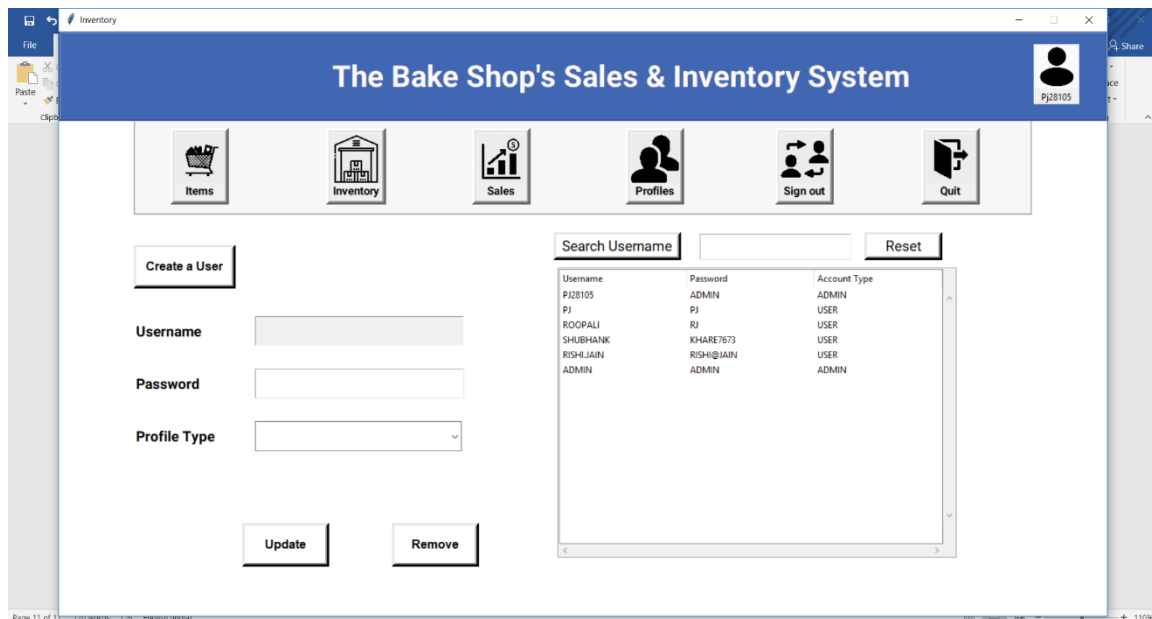
Stock: 20

Buttons: Add item, Back

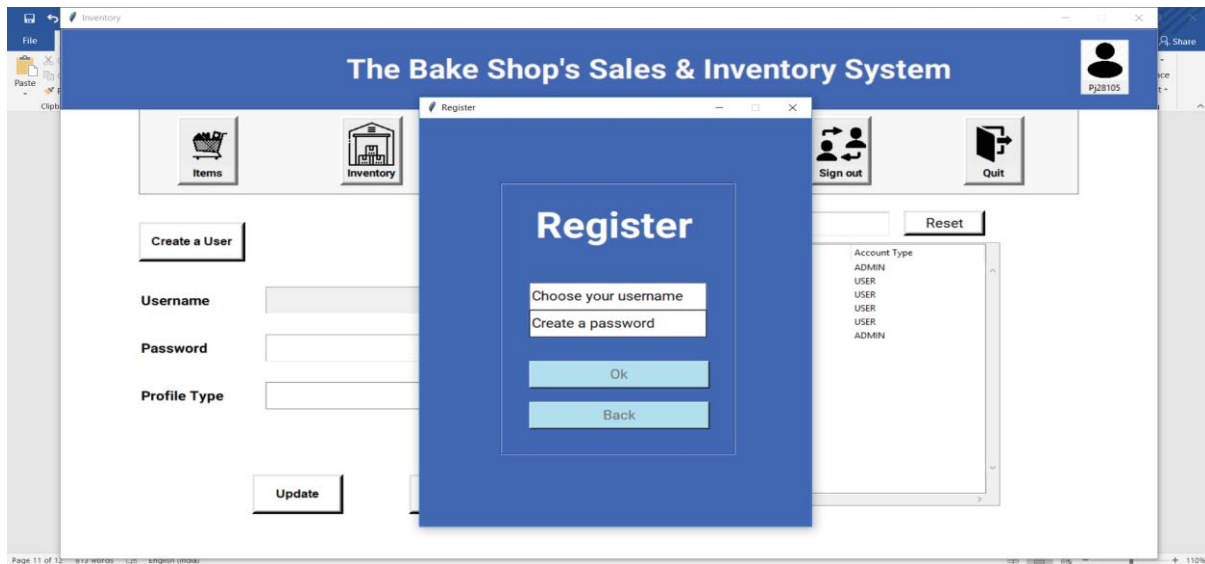
- **Sales-:** Through Sales button you can check the current sale progress in your bakery. You can transaction no., Invoice no. of bakery. You can Search any bill details by Invoice no. User can also check the date and time of the transaction.

Transaction ID	Invoice No.	Product ID	Description	Quantity	Total Price	Date	Time
100	111	100730	A & W ROOT BEER	1	60	19-11-18	22:10:23
101	111	100110	MAGGI ATA	1	25	19-11-18	22:10:31
102	111	100110	MAGGI ATA	3	75	19-11-18	22:37:10
103	111	100220	BISCUITS CHOCOLATE	2	30	19-11-18	22:37:20
104	112	100110	MAGGI ATA	2	50	19-11-18	22:41:32
105	112	100720	KOPIKO BROWN	2	50	19-11-18	22:41:42
108	118	100110	MAGGI ATA	1	25	19-11-18	23:19:8
109	118	100116	APPLE PIE	1	15	21-11-18	20:57:51
110	118	100730	A & W ROOT BEER	2	120	21-11-18	20:57:59
111	118	100110	MAGGI ATA	1	25	21-11-18	20:58:9
112	118	100670	MOZLLA CHESSE	2	40	21-11-18	21:38:52
113	120	100770	BUNS	3	120	21-11-18	22:51:30
114	120	100550	CHESSE CAKE	1	35	21-11-18	22:55:2
115	120	100760	COOKIES	1	30	21-11-18	22:56:1
116	120	100280	COKEZERO	2	70	21-11-18	22:56:7
117	121	100111	CROISSANT	3	150	21-11-18	22:56:18

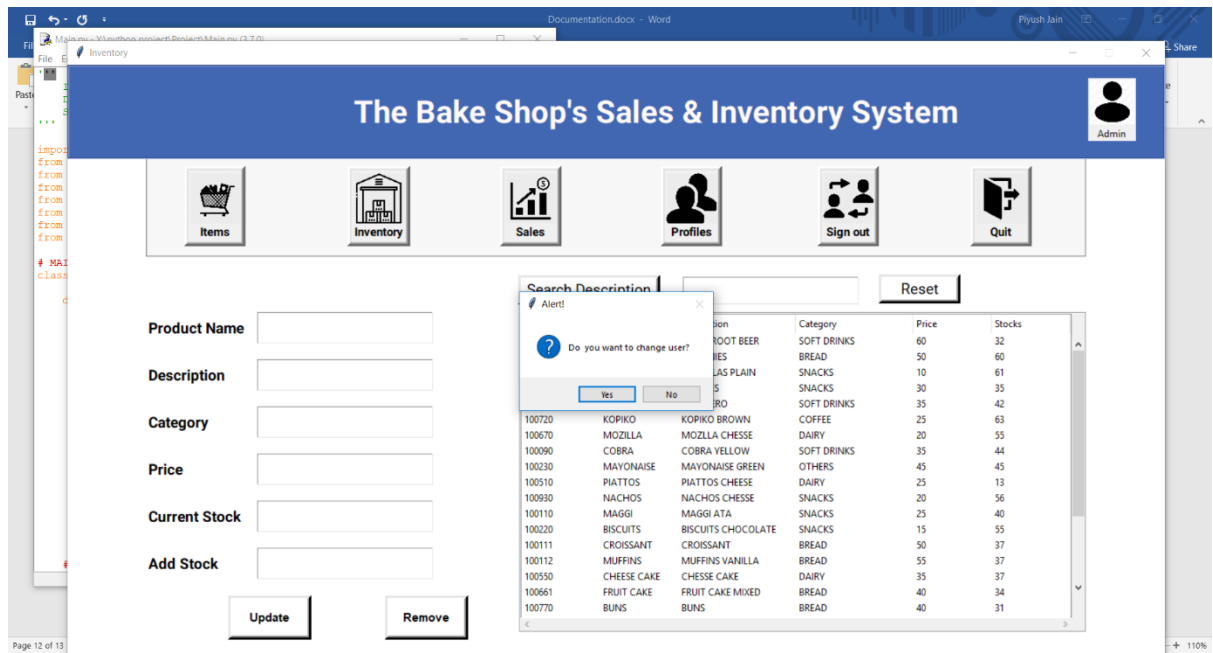
- **Profiles-:** To check Profiles currently in bakery's database user can click profile button. All entry boxes will fill automatically if you select any row of the table. You can edit or remove accounts from the data base. You can also edit passwords of the user profiles.



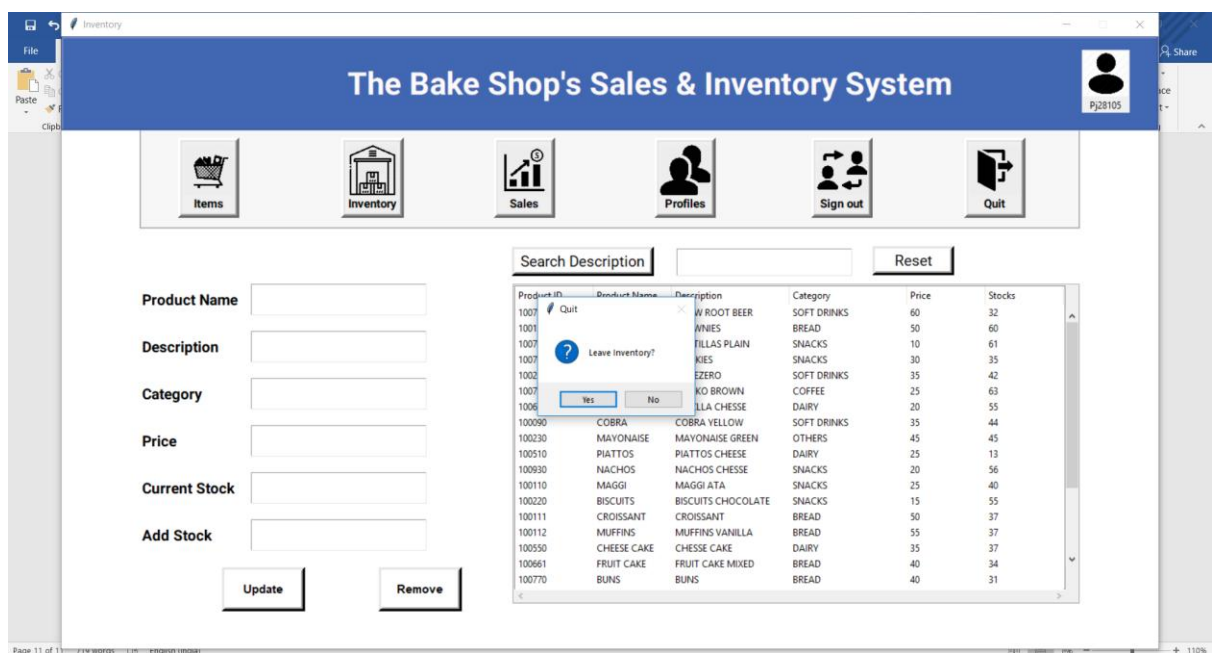
User can also create a new profile by clicking on create user button. A register user window will pop up. By default, it will create a User account. To make it Admin type you can edit its property through profile type combo box.



- **Sign Out**:- To sign out click sign out button. You will get back to Login window.



- **Quit:-** To quit Inventory user can press quit button to exit the Inventory or X button on the window.

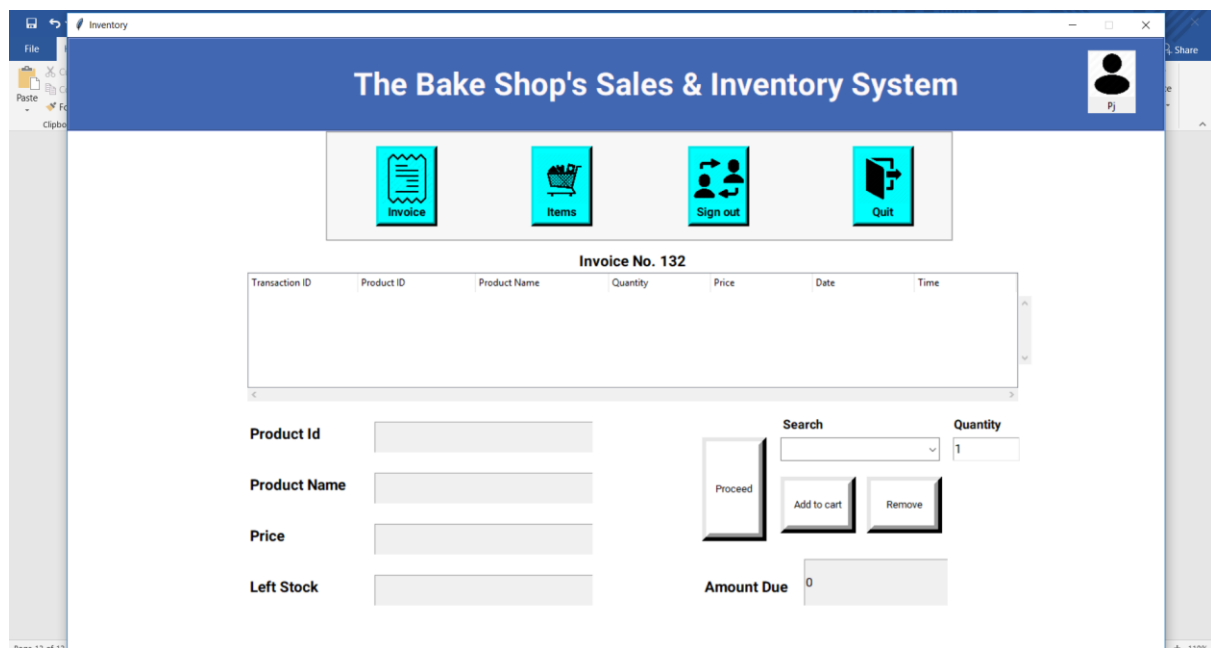


USER ACCOUNT

This is a Limited access account. This account is for employees of the bakery. Through this account you can sell products, make transaction, can see current products in bakery etc.

- **Invoice-** By clicking Invoice Button. You will enter to the transaction window. There is Invoice no. at top, this is bill no. by which you can fetch the bill details through Sales button in Admin type account.

After Invoice no. there is transaction table. It will get automatically filled when you enter a product for sale.



User can search Product by description or Product id in search box. This box will provide suggestions to the user. To make entry in Transaction table Press Add cart button. Automatically its product detail will get displayed. Here product details are not for edit it is a User type account.

The Bake Shop's Sales & Inventory System

Invoice No. 132

Transaction ID	Product ID	Product Name	Quantity	Price	Date	Time
154	100110	MAGGI ATA	1	25	24-11-18	16:29:32

Product Id: 100110
Product Name: MAGGI ATA
Price: 25
Left Stock: 39

Search: [Dropdown] Quantity: 1

Buttons: Proceed, Add to cart, Remove

Amount Due: 25

You can remove any record from current transaction by clicking remove button.

The Bake Shop's Sales & Inventory System

Invoice No. 132

Transaction ID	Product ID	Product Name	Quantity	Price	Date	Time
154	100110	MAGGI ATA	1	25	24-11-18	16:29:32

Product Id: 100110
Product Name: MAGGI ATA
Price: 25
Left Stock: 39

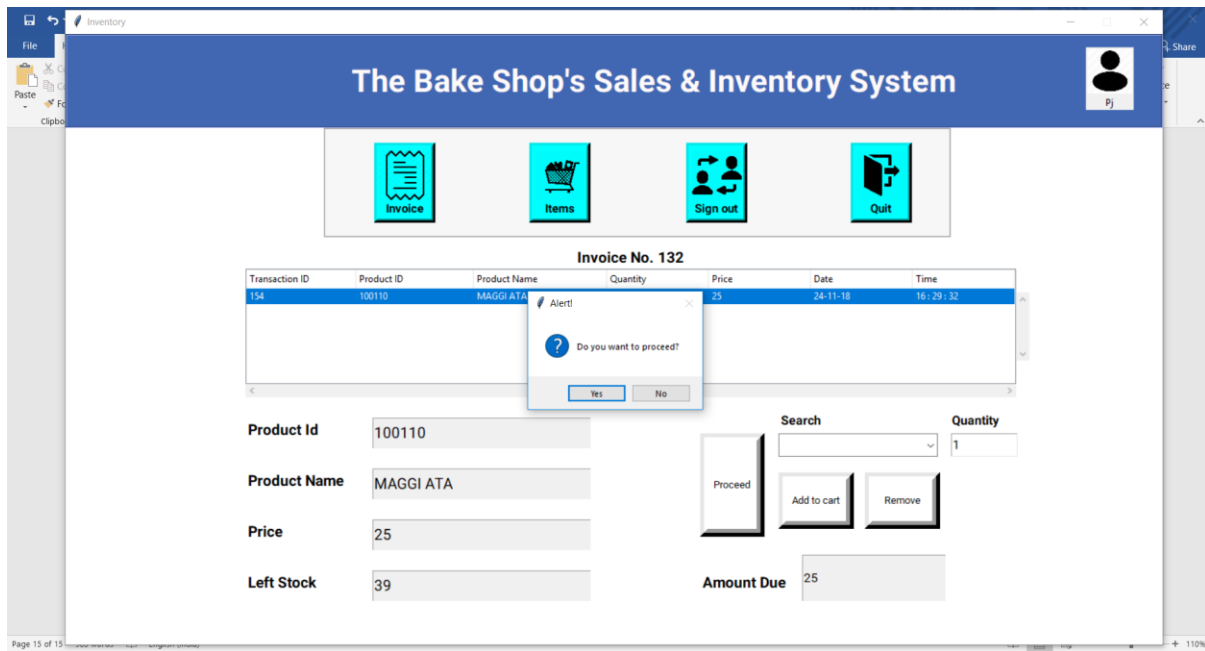
Search: [Dropdown] Quantity: 1

Buttons: Proceed, Add to cart, Remove

Amount Due: 25

Alert! Remove cart? [Yes] [No]

To make a Bill User can click proceed button.

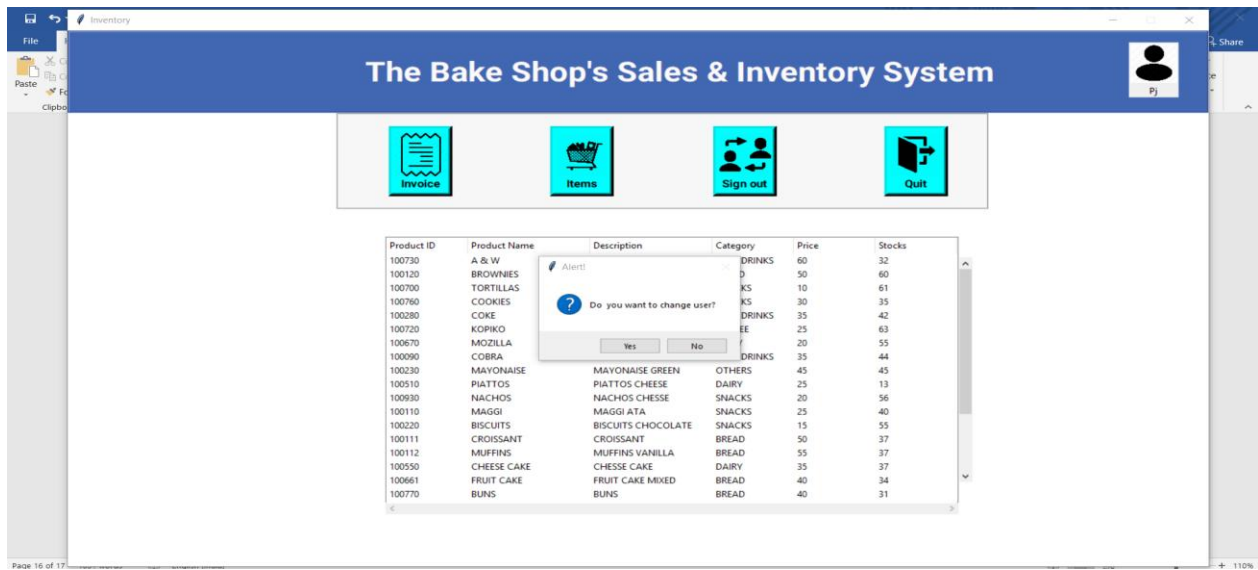


After proceed, it will prompt user to take a print out of this transaction.

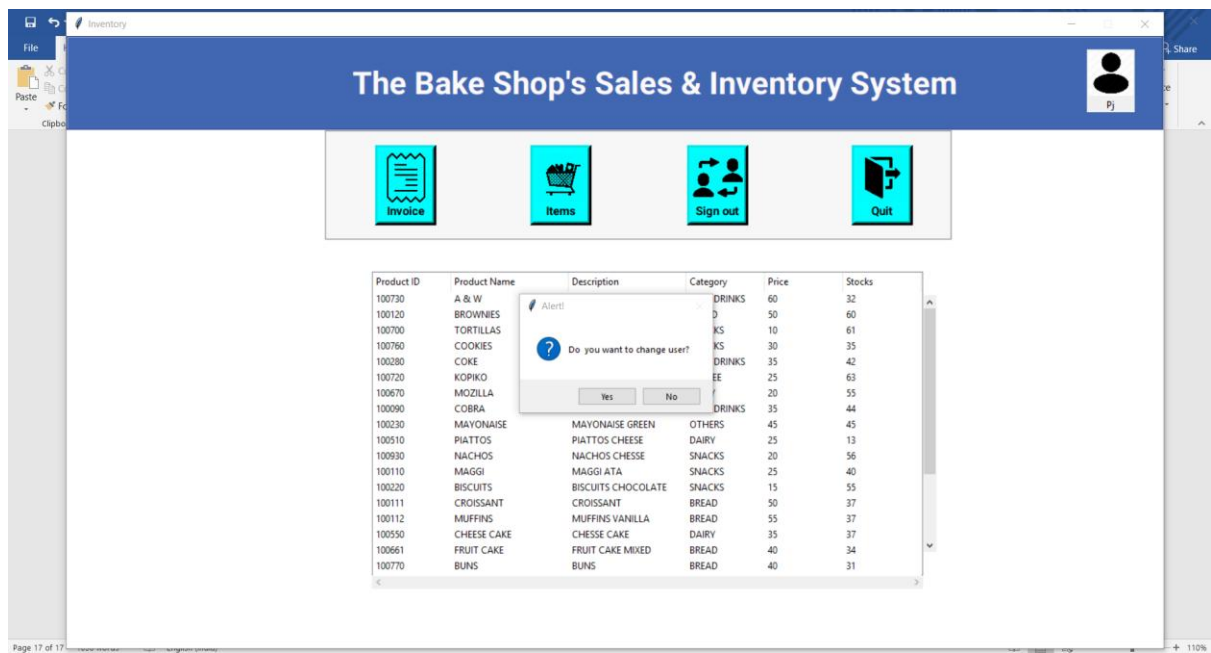
➤ **Items**:- User can view Items in the bakery. The details are not for edit.



➤ **Sign Out**:- To sign out click sign out button. You will get back to Login window.



- **Quit:-** To quit Inventory user can press quit button to exit the Inventory or X button on the window.



Conclusion:

The Bakery Inventory Management System efficiently manages bakery operations by providing a user-friendly interface for both **Admin** and **User** accounts. The system allows easy product searching through an intelligent suggestion-based search box, smooth addition of new items, and effective management of sales, profiles, and transactions.

Admins can monitor real-time sales progress, manage user profiles, and maintain complete control over inventory data, while users (employees) can handle billing, transactions, and product sales with limited access for security purposes.

The project successfully demonstrates the use of systematic record handling, automated data entry, and smooth navigation between modules such as Items, Sales, Profiles, and Invoice generation. Overall, it simplifies bakery management tasks, enhances accuracy, reduces manual effort, and improves the overall efficiency of day-to-day operations.

Github Link :- <https://github.com/nikhil566565/The-Bake-Shop-s-Sales-Inventory-System>