



# LIONS SCHOOL MIRZAPUR

Session : 2023-24

## AISSCE PROJECT INFORMATICS PRACTICS - (065) CLASS - XII

### STORE MANAGMENT SYSTEM

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Date of Submission : \_\_\_\_\_

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Signature of Invigilator

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Signature of External  
Invigilator

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Signature of Principal

# Certificate

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This is to certify that the group consisting of **Shivansh Agrahari , Kshitij Baranwal , Anurag Kumar Pal and Harsh Gupta** has successfully completed the Informatics Practices Project titled **Store Management System** as part of the school curriculum at Lions School. Their collaborative efforts, effective teamwork, and dedication to excellence have been instrumental in the successful execution of this group project.

We also declare that this project work has neither been submitted to any other board nor has been published at any time by us in the past

Group Members:

- **Shivansh Agrahari**
- **Anurag Kumar Pal**
- **Kshitij Baranwal**
- **Harsh Gupta**

**Class - XII**

06|01|2023

Lions School  
Mirzapur

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# Preface

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Welcome to the realm of Store Management System innovation. In this Information Technology project, we delve into the dynamic world of grocery retail, seeking to optimize and modernize the essential processes that govern the day-to-day operations of a store.

From inventory control and order processing to customer engagement and data analytics, we explore the integration of advanced technologies such as data analytics, point-of-sale systems, and inventory management software.

The Store Management System project is a commitment to enhancing the efficiency of store operations, improving customer experiences, and embracing the digital transformation of the retail landscape.

Join us on this technological journey as we strive to redefine the future of grocery store management.

# Acknowledgement

As we stand at the culmination of our Store Management System group project, we extend our heartfelt appreciation to all those who played a pivotal role in its success.

Our sincere gratitude goes to **Mr. Dwarika Nath Gupta Sir** for their guidance, wisdom, and continuous support. Their insights were instrumental in steering our group towards excellence.

We want to express our thanks to each member of our group, **Shivansh Agrahari , Harsh Gupta , Anurag Kumar Pal and Kshitij Baranwal** for their unwavering commitment, collaborative spirit, and collective effort. Each individual's unique contribution has been crucial to the project's completion.

We are indebted to **Lions School** for providing the necessary resources and creating an environment conducive to learning and innovation.

Our project also benefited significantly from the insights and feedback provided by market businessmen. Their perspectives enriched our understanding and added practical relevance to our work.

Last but not least, we express our gratitude to our friends and family for their understanding, patience, and encouragement throughout this journey.

Together, we celebrate the successful completion of this group project, recognizing the collective effort and dedication that have shaped its outcome.

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# **Introduction**

Welcome to the Store Management Project, named Shivay Supermart, a comprehensive exploration into the integration of technology within the retail sector.

This class 12 initiative delves into optimizing operations, from inventory control to customer engagement. Embracing innovative solutions, we aim to redefine the grocery store experience.

Our project emphasizes the efficient use of Python for the basic layout of the whole management system and SQL for the data management which leads to streamline processes, enhance customer satisfaction, and contribute to the evolving landscape of modern retail management.

Join us on this journey of technological advancement and operational efficiency in the realm of Shivay Supermart..

# Problem Statement

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For any business, Inventory is one of the most important department that must be well managed in order to run daily business activity smoothly. But mostly business are not able to manage inventory as they do not have good computerized system. As a result, they lacks in

- Security of data, documents related to business transactions
- Unable to keep single copy of data at single location which increases data complexity
- Managing data consistency
- Accessing and referencing or search data quickly
- Unable to analyze data as there is no mechanism to visualize data

# **Objective**

The objective of project is to build an application program to:

- Provide function to manage goods in the store more efficiently.
- Provide searching facility based on various factors.
- Reduce time and cost to control and manage inventory.
- Reduce paperwork.
- Increased accuracy and reliability.
- Increased Data Consistency.
- Increased Data security.

This application program can be used easily by non-programming personals.



# Project Scope

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- **App Accessibility:** Developed an application accessible on operating systems directly.
- **Inventory Control:** Enable real-time tracking of stock levels, product details, and reorder management.
- **Billing Managment :** Facilitate smooth sales transactions, bill processing, and customer interactions.
- **Email Query for Customers :** Provide a dashboard for sending emails using SMTP.
- **User-Friendly Interface:** Design an intuitive interface for easy navigation, ensuring accessibility for users with varying technical expertise.

# System Requirments

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- **Brand & Model** - Asus VivoBook 14
- **RAM** - 8 GB
- **Processor** - AMD Ryzen 5 7520U Mobile Processor (4-core/8-thread, 4MB cache, up to 4.3 GHz max boost)
- **Storage** - 512GB M.2 NVMe PCIe 3.0 SSD
- **Display** - 14.0-inch (35.56cm), FHD (1920 x 1080) 16:9 aspect ratio, 60Hz refresh rate, LED Backlit, 250nits, 45% NTSC color gamut,Anti-glare display
- **Integrated** - AMD Radeon Graphics
- **Operating System** - Windows 11 Home

# **Applications Used**

In crafting our Store Management System project, we harnessed the power of two indispensable tools: **PyCharm and MySQL**.

PyCharm, an intelligent Python IDE, facilitated seamless coding, debugging, and collaboration, ensuring the efficiency of our software development process.

Complementing this, MySQL, a robust relational database management system, enabled us to organize and manage vast datasets crucial for our store management system.

Together, these applications form the backbone of our project, ensuring a dynamic, scalable, and proficient Grocery Store Management System.

# Overview of Python

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Python, a versatile and high-level programming language, has emerged as a cornerstone in the world of software development, data science, and automation. Created by Guido van Rossum and first released in 1991, Python is celebrated for its readability, simplicity, and the ease with which developers can express concepts in fewer lines of code.

Its expansive standard library and comprehensive ecosystem of third-party packages make Python a go-to choice for diverse applications. Python is an interpreted language, allowing developers to test and execute code swiftly, fostering an iterative development process. Python's readability is enhanced by its use of whitespace indentation, promoting clean and organized code structures. This, coupled with dynamic typing, makes it an accessible language for both beginners and experienced programmers.

Python's applicability extends across web development, scientific computing, machine learning, and artificial intelligence. Frameworks like Django and Flask empower developers to build robust web applications, while libraries such as NumPy and Pandas facilitate complex data manipulation and analysis.

Moreover, Python's open-source nature has fostered a vibrant community, contributing to its continuous evolution. The language's adaptability, versatility, and community support position Python as a language of choice for solving intricate problems and driving innovation in various domains.

# Overview of MySQL

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MySQL, a renowned relational database management system, stands as a stalwart in the realm of data management, offering a robust and scalable solution for diverse applications.

Following the principles of relational database architecture, MySQL organizes data into structured tables with defined relationships, ensuring data integrity through ACID properties. Its compatibility with the widely accepted Structured Query Language (SQL) enables seamless interaction, facilitating integration with various programming languages and applications.

MySQL is celebrated for its scalability and performance optimization features, making it adept at handling substantial datasets and high transaction volumes. Its open-source nature fosters collaboration, innovation, and adaptability, empowering users to modify and redistribute the source code. The cross-platform compatibility of MySQL ensures its versatility across different operating systems.

Notably, MySQL incorporates security measures such as user authentication, access control, and encryption to safeguard sensitive data. With a thriving community, MySQL benefits from continuous improvements, extensive documentation, and compatibility with web technologies.

It remains a preferred choice for applications ranging from small-scale projects to enterprise-level systems, providing a reliable and feature-rich environment for effective data management.

# Project Module

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Store Management System is divided into following modules :

- **Loading Module** : This consist of a loading page which shows loading of the app for the few seconds.
- **Signup Module** : This allows user to signup on the app in two cateogries.
  1. Admin
  2. Seller

The admin page redirects to the handling of the products , employees , finance etc. whereas the seller redirects to the billing system of the store.

- **Signin Module** : This allows user to login to the system if he/she has already registered.
- **Forgetpass Module** : It allows user to change the password in case he/she has forgotten his password.
- **Homepage Module** : In this page , It is divided into 7 sub category :
  1. **Dashboard** : It shows basic details of the store.
  2. **Products** : It allows user to add , modify or delete the product.
  3. **Product Category** : It allows user to add, modify or delete the product category.
  4. **Employee** : It allows user to add , modify or delete the employee.
  5. **Finance** : It allows user to manage expenses and plot a graph depicting on that expenses.
  6. **Email** : It allows user to send email which is linked through gmail.
  7. **Log Out** : It allows user to log out from the system.
- **Billing Module** : It allows user to bill the customer , store customer details and even print the bill containting total quantity , purchases that possess a good impact on the customer.

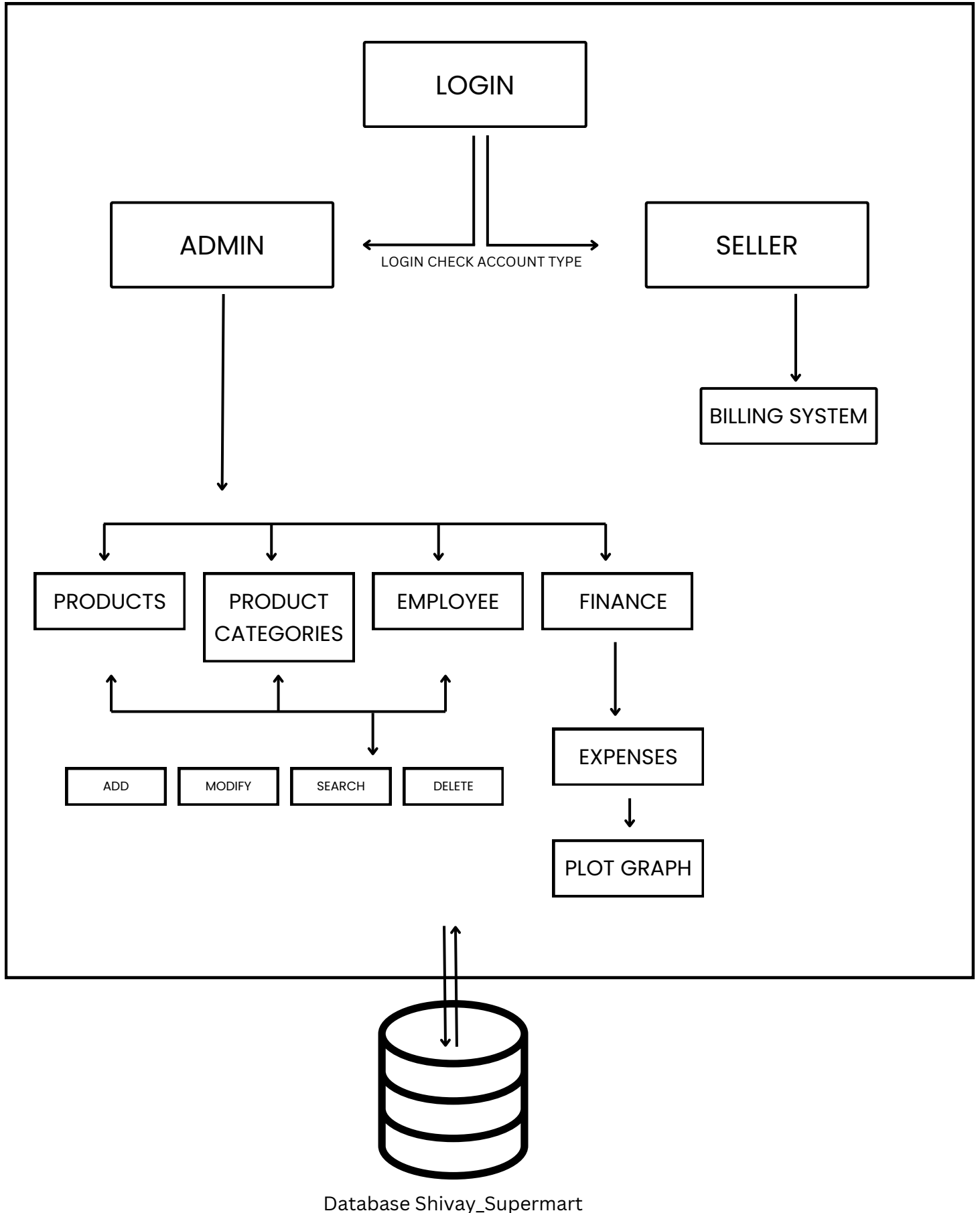
# Libraries Used

For creating this project , I have used several libraries from which some are listed below which are majorly used -

- **Tkinter** : Tkinter is a Python library for creating graphical user interfaces (GUIs). It provides a set of tools for building windows, dialogs, buttons, and other GUI elements. I have use this to prepare the frontend of the system .It is easy to use, making it a popular choice for beginners in GUI development. It's built on the Tk GUI toolkit and offers a simple way to create interactive applications.
- **Python Image Library (PIL)** : The Python Imaging Library (PIL), now known as the Pillow library, is a powerful image processing library for Python. It provides a wide range of functionalities, including opening, manipulating, and saving various image formats. PIL/Pillow supports basic image editing operations like cropping, resizing, and filtering. It facilitates image enhancements, transformations, and supports diverse image file formats.
- **smtplib** : The smtplib module provides an interface to send emails using the SMTP protocol. You can integrate it into your Tkinter application by creating an entry form for the user to input the email content and credentials, and then use smtplib to send the email when the user clicks a button.
- **DateEntry** : The `dateentry` library is an extension for Tkinter in Python, providing a widget for easy date input in graphical user interfaces. It simplifies date selection, allowing users to input and choose dates conveniently. This library enhances the Tkinter toolkit, making it more user-friendly for applications that require date-based interactions.

# Data Flow Diagram

Python Interface





# Database Design and Table Structure

- Table Name - **userdata**

Field	Type	Null	Key	Default	Extra
id	int	NO	PRI	NULL	auto_increment
email	varchar(50)	YES		NULL	
username	varchar(100)	YES		NULL	
password	varchar(50)	YES		NULL	
account_type	varchar(20)	YES		NULL	

- Table Name - **products**

Field	Type	Null	Key	Default	Extra
Product_ID	char(5)	NO	PRI	NULL	
Category	varchar(50)	YES		NULL	
Product_Company	varchar(30)	YES		NULL	
Product_Name	varchar(40)	YES		NULL	
Price	int	YES		NULL	
quantity	int	YES		NULL	
product_status	varchar(30)	YES		NULL	

- Table Name - **product\_category**

Field	Type	Null	Key	Default	Extra
Serial_Number	char(3)	NO	PRI	NULL	
Category_Name	text	YES		NULL	
Total_Products	int	YES		NULL	
Description	text	YES		NULL	

- Table Name - **employee**

Field	Type	Null	Key	Default	Extra
EmployeeID	char(4)	NO		NULL	
FirstName	varchar(50)	YES		NULL	
LastName	varchar(50)	YES		NULL	
username	varchar(20)	YES		NULL	
password	varchar(20)	YES		NULL	
DateOfBirth	date	YES		NULL	
gender	char(6)	YES		NULL	
HireDate	date	YES		NULL	
JobTitle	varchar(100)	YES		NULL	
Salary	decimal(10,2)	YES		NULL	
Email	varchar(100)	YES		NULL	
PhoneNum...	varchar(20)	YES		NULL	
address	varchar(100)	YES		NULL	

- Table Name - **customer**

Field	Type	Null	Key	Default	Extra
Customer_Name	varchar(100)	YES		NULL	
Phone_Number	varchar(20)	YES		NULL	

# SQL Code

- 1.** Create table userdata  
(  
id int auto\_increment primary key,  
email varchar(50),  
username varchar(100),  
password varchar(50),  
account\_type varchar(20)  
);
- 2.** Create table products  
(  
Product\_ID char(5) primary key,  
Category varchar(50),  
Product\_Company varchar(30),  
Product\_Name varchar(40),  
Price int,  
quantity int,  
product\_status varchar(30)  
);
- 3.** Create table product\_category  
(  
Serial\_Number char(3) primary key,  
Category\_Name text,  
Total\_Products int,  
Description text  
);

**4.** Create table employee  
(  
EmployeeID char(4),  
FirstName varchar(50),  
LastName varchar(50),  
username varchar(20),  
password varchar(20),  
DateOfBirth date,  
gender char(6),  
HireDate date,  
JobTitle varchar(100),  
Salary decimal(10,2),  
Email varchar(100),  
PhoneNumber varchar(20),  
address varchar(100)  
);

**5.** Create table customer  
(  
Customer\_Name varchar(100),  
Phone\_Number varchar(20)  
);

# **PYTHON SOURCE CODE**