**ABSTRACT:-**

An Inventory Management System (IMS) is a software solution designed to streamline and automate the processes involved in tracking and managing inventory in real-time. It aims to optimize stock levels, reduce excess inventory, and minimize stockouts by providing accurate, up-to-date information on product quantities, locations, and movements. The system typically includes features such as barcode scanning, stock level alerts, reporting, order management, and integration with other business functions like sales and procurement. The core objective of the IMS is to enhance operational efficiency, improve decision-making, and reduce costs associated with inventory mismanagement. By automating inventory tracking and offering predictive analytics, the system helps businesses maintain optimal stock levels, reduce human error, and ensure timely availability of products. Moreover, the system can generate reports that aid in monitoring trends, forecasting demand, and improving overall supply chain management.

The implementation of an IMS is particularly beneficial in industries such as retail, manufacturing, and logistics, where maintaining a balanced and well-organized inventory is crucial for operational success. Through seamless data integration and real-time monitoring, an Inventory Management System supports businesses in achieving higher accuracy, productivity, and customer satisfaction.

**Objective:**

**To develop an efficient and user friendly inventory management system that helps to manage their inventory levels, streamline operations and improve accuracy.** The technology is used for this project is python and for the database sql\_lite.

Key Features:-

 Real-time Inventory Tracking –Monitors stock levels and movements in real-time.

 Barcode/RFID Scanning – Automates item tracking and minimizes human error.

 Order Management – Automates creation, tracking, and management of orders.

 Inventory Valuation – Tracks stock value using FIFO, LIFO, or Average Cost methods.

 Supplier/Vendor Management – Manages relationships and performance with suppliers.

 Stock History & Reporting – Provides detailed reports on inventory activities.

**3.1.3 UML CLASS DIAGRAM**

