




# BILLING SYSTEM



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# Objective

- The objective of this project is to develop a simple and efficient billing system that allows users to:
  - Add and manage products with unique IDs, names, prices, and stock.
  - Update product stock after sales.
  - Generate bills based on customer purchases, including discounts for large purchases.
  - Provide change calculations based on cash payments.

# Key Topics Used in This Project

- C Programming Basics: Variables and Data Types
- Control Statements : (If-else loops)
- Arrays and Structs for organising data
- Input Validation: Checking user input for valid data types (e.g., numeric checks for price and stock) and Ensuring unique product IDs.
- Mathematical Operations
- User Interface : Console-based input and output for user interaction

# Flow Chart



# Working

- The user starts by adding products with unique IDs using the `addProduct()` function, which prompts for product details (ID, name, price, stock) and stores them in the product list.
- The program allows viewing available products with the `viewProducts()` function, displaying the list of all products along with their details for easy reference.
- The stock of products can be updated using the `updateStock()` function after sales, which modifies the quantity of the specified product based on the sales transactions.
- When creating a bill, the user inputs product IDs and quantities through the `createBill()` function, which calculates the total amount, applies discounts if applicable, and stores the purchased items for billing.
- The system accepts cash payments through the `acceptPayment()` function, which calculates the change to be returned to the customer based on the payment made.
- A bill summary is displayed using the `printBill()` function, which formats and prints the final bill, including the total amount, applied discounts, and change returned to the customer.

# Advantage

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1. User-friendly interface for adding and managing products.
2. Real-time stock updates after sales.
3. Automatic discount calculation for large purchases.
4. Comprehensive bill summary for customer reference.
5. Input validation to enhance reliability and user experience.

# Conclusion

This billing system project provides a practical solution for managing sales in a small retail environment. With its focus on user-friendly design and efficient management of products and transactions, it serves as a foundational tool for businesses. Future enhancements could include database integration and multi-user support.