

# Restaurant Billing System

Accept orders, generate detailed bill with GST and discounts

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## Core Objectives

- Automate restaurant billing using C programming
- Eliminate manual calculation errors
- Generate accurate bills with GST and discount calculations

# Project Overview

This project implements a **Restaurant Billing System in C language** that streamlines the ordering and billing process for food establishments. The system provides an interactive console interface where users can browse a menu, select items, and specify quantities.

The application automatically calculates the subtotal, applies **18% GST** to comply with tax regulations, and rewards customers with a **10% discount** when their total exceeds ₹500, ensuring accurate, efficient, and customer-friendly billing.



## 18%

**GST Applied**

Automatic tax calculation

## 10%

**Discount Eligible**

On orders above ₹500

## 100%

**Accuracy**

Error-free calculations

# Tools & Technologies Used



## Programming Language

**C Language** — chosen for its efficiency, low-level control, and widespread use in system programming



## Development Environment

**Visual Studio Code** — a lightweight, powerful IDE with excellent C/C++ extension support



## Compiler

**GCC (GNU Compiler Collection)** — industry-standard open-source compiler for C programs

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## Core Programming Concepts Implemented

### Functions & Modularity

- `showMenu()` — displays restaurant menu
- `getPrice()` — retrieves item pricing
- Modular design for code reusability

### Control Structures

- Switch-case statements for item selection
- Do-while loops for continuous ordering
- Conditional logic for discount application

# Project Working: Code Flow



## Menu Display

The `showMenu()` function presents all available food items with their corresponding item numbers to the user



## User Input

Customer selects item number and enters desired quantity through console prompts



## Price Retrieval

The `getPrice()` function uses switch-case logic to return the correct price for the selected item



## Order Loop

Do-while loop allows customers to add multiple items to their order seamlessly



## Bill Calculation

Total bill is computed dynamically, applying GST and discount logic before generating final output

# Application & Output

## Real-World Applications

Small Restaurants

Quick-service eateries and local diners

Café Billing

Coffee shops and snack counters

Educational Projects

C programming coursework and demonstrations

## Output

```
^
-----Welcome to GIZA Restraunt-----
----- RESTAURANT MENU -----
1. Burger      - Rs.100
2. Pizza       - Rs.200
3. Sandwich    - Rs.80
4. Coffee      - Rs.50
5. Cold Drink  - Rs.40
-----
Enter item number: 1
Enter quantity: 4
Add more items? (y/n): y
Enter item number: 4
Enter quantity: 3
Add more items? (y/n): n

----- BILL -----
Total Amount : Rs. 550.00
GST (18%)    : Rs. 99.00
Discount     : Rs. 55.00
-----
Final Amount : Rs. 594.00
-----
Thank You! Visit Again
PS C:\Users\Suhail Akhtar\Desktop\C project> |
```

## Generated Bill Components

<div>Subtotal Amount</div> <div>Sum of all ordered items</div>	<div>GST (18%)</div> <div>Goods and Services Tax</div>
<div>Discount (10%)</div> <div>Applied if total exceeds ₹500</div>	<div>Final Payable</div> <div>Complete formatted bill</div>

# System Advantages



## Simple & User-Friendly

Intuitive console interface requiring minimal training

## Accurate Calculations

Eliminates human error in billing mathematics

## Reduces Manual Effort

Automates repetitive billing tasks efficiently

## Supports Multiple Orders

Seamlessly handles complex multi-item transactions

## Modular Architecture

Function-based design enables easy maintenance

## Easy to Modify

Clear code structure simplifies future enhancements

# Future Scope & Enhancements



## File Handling Implementation

Add capability to save bills to text files for record-keeping and future reference



## GUI-Based Application

Convert console interface to graphical user interface using libraries like GTK+ or Qt



## Database Integration

Implement MySQL or SQLite for persistent menu storage and transaction history



## Online Ordering System

Integrate web-based ordering capabilities with backend C services



## Admin Panel

Develop administrative interface for dynamic menu management and pricing updates



# GitHub Repository

## Why GitHub for This Project?

1

### Source Code Management

Centralized repository for storing and organizing all project files

2

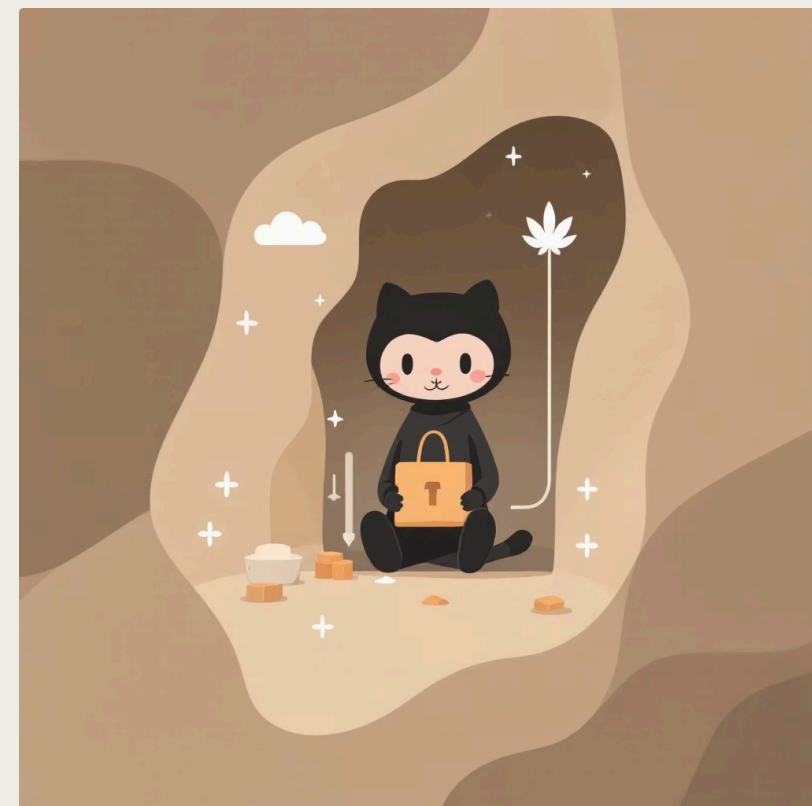
### Version Control

Track every change, revert modifications, and maintain complete development history

3

### Collaboration & Sharing

Enable easy project sharing with peers, instructors, and the open-source community



## Repository Contents



### Complete C Source Code

Fully commented implementation



### README Documentation

Setup and usage instructions



### Future Enhancements

Roadmap for improvements

Git hub link - <https://github.com/suhailakhtar7/C/tree/main/PROJECT>

# Conclusion



The Restaurant Billing System successfully demonstrates the **practical application of fundamental C programming concepts** including functions, loops, switch-case statements, and conditional logic in solving real-world problems.

This project delivers an **efficient and automated billing solution** that reduces manual errors while providing accurate calculations with GST and discount features.

## Key Takeaways

This console-based application forms a strong foundation for understanding system development workflows and serves as an excellent stepping stone toward more advanced projects involving GUI frameworks, database integration, and web technologies.

### Educational Value

Reinforces C programming fundamentals

### Practical Application

Solves real billing challenges

### Scalable Design

Ready for future enhancements