

🍽️ Restaurant Billing Software

A modular Python application for managing restaurant orders, generating itemized bills, and exporting receipts as PDFs. Built with a GUI interface, MySQL backend, and test-driven development for reliability and scalability.

🚀 Features

- ✅ GUI interface for menu selection and billing
- ✅ MySQL database integration for persistent storage
- ✅ Dynamic bill calculation with tax and discounts
- ✅ PDF receipt generation with restaurant branding
- ✅ Unit tests using `pytest` and `unittest`
- ✅ Modular folder structure for maintainability
- ✅ Ready for deployment and CI/CD integration

📁 Folder Structure

restaurant_billing/

```
├── main.py # Entry point
├── gui/ | └── billing_ui.py # GUI logic
├── db/ | └── mysql_connector.py # DB connection and queries
├── exports/
│   └── receipt_YYYY-MM-DD.pdf
├── tests/ |
│   ├── test_receipt.py |
│   └── test_db.py
├── assets/ |
├── logo.png
├── README.md
└── .gitignore
```

🧠 Code Explanation

```

### 1. `main.py`

```python
from gui.billing_ui import launch_gui

if __name__ == "__main__":
 launch_gui()

def launch_gui():
 root = Tk()
 root.title("Restaurant Billing System")
 # GUI widgets: menu list, quantity input, bill preview
 root.mainloop()

```

### 3. mysql\_connector.py (Database)

```

python

def fetch_menu_items():
 conn = mysql.connector.connect(...)
 cursor = conn.cursor()
 cursor.execute("SELECT name, price FROM menu_items")
 return cursor.fetchall()

```

### 4. receipt\_generator.py (PDF Export)

```

python

def generate_pdf_receipt(order_data):
 pdf = FPDF()
 pdf.add_page()
 pdf.set_font("Arial", size=12)
 pdf.cell(200, 10, txt="Restaurant Receipt", ln=True, align='C')
 # Add itemized bill
 pdf.output("exports/receipt_2025-08-16.pdf")

```

### 5. test\_receipt.py (Unit Test)

```

python

def test_total_amount():
 items = [{"name": "Dosa", "qty": 2, "price": 50}]

```

```
assert calculate_total(items) == 100
```

## Installation

### Requirements

- Python 3.10+
- MySQL Server
- fpdf, mysql-connector-python, tkinter, pytest
- `git clone https://github.com/Mohan76-python/restaurant_billing.git`
- `cd restaurant_billing`
- `pip install -r requirements.txt`
- `python main.py`
- 

## • Testing

- Run all tests:
- `bash`
- `pytest tests/`

## • Sample Output

### • PDF Receipt Preview:

- Code
- Restaurant Name
- -----
- | Item   | Qty | Price |
|--------|-----|-------|
| Dosa   | 2   | ₹100  |
| Coffee | 1   | ₹20   |
- -----
- Total: ₹120
- Thank you! Visit again.

## Future Enhancements

- Web-based version with Flask
- Analytics dashboard for sales
- Role-based login system
- Cloud database integration

## • Author

- **Mohan** – Full Stack Python Developer Focused on backend automation, GUI tools, and professional project presentation.