Course Code   : CSE 332

Course Title   : Advanced Programming Lab

Course Teacher   : Humayra Ferdous

                                  Assistant Professor, Dept. of CSE

Project Proposal

Pizza Order and Bill Generator

Team Members:

1. Abdullah Bin Shawkat (22235103204)
2. Ayesha Siddika Mohona(22235103206)
3. Mohammad Mahmudul Hasan Rodra (22235103211)
4. Jayanta Das(22235103221)
5. Md Nazmul Hasan Siam (22235103223)

Pizza Order and Bill Generator

---

1. Program Overview

A Java-based command-line application for a pizza shop that allows users to place orders, customize pizzas, and generate itemized bills. The program follows Object-Oriented Programming (OOP) principles.

2.Technologies:

- Data Storage -JSON File
- Language - Java
- IDE - Intellij

3.Main Classes and Responsibilities

Class Name	Responsibilities
Pizza	Represents a pizza (name, size, base price, toppings).
Topping	Represents a topping (name and price).
OrderItem	Represents a single ordered pizza with quantity and toppings.
Order	Manages a list of OrderItems and handles price calculations.
Bill	Generates and displays a formatted bill.
PizzaShop	Main driver class to handle user input and program flow.

---

4. Workflow Steps

1. **Start Program**

   - Display welcome message.

   - Show available pizzas, sizes, and toppings.

2. **User Places Order**

   - User selects a pizza.

   - User chooses size (Small, Medium, Large).

   - User selects additional toppings.

   - User enters a quantity.

   - Option to repeat the process or finish ordering.

3. **Order Management**

   - Each selection is stored as an OrderItem.

   - All OrderItems are stored in an Order object.

4. **Generate and Display Bill**

   - Subtotal, taxes, and final amount calculated.

   - Display itemized bill in CLI format.

   - Bill is saved to a .txt file for recordkeeping.

5. **Save Order to JSON**

   - Order details are serialized and saved to a .json file using the OrderStorage class.

   - Can be used for order history, analytics, or future enhancements.

6. **Exit Program**

   - Prompt users to place another order or exit the application.