

Jerry's Quick Mart - Exercise for Deft

This is my solution to your challenge. I decided to use Java since OOP was the main concern about this project.

Assumptions

- The app assumes `inventory.txt` is formatted as expected and shown in the instructions set.
- The sales tax rate is fixed 6.5% as shown in the instructions set.

Solution

- `Product` holds an item's details while `CartItem` represents a specific item in a customer's cart, tracking quantity.
- `Inventory` it's responsible for reading and writing data to the `inventory.txt` file.
- `Cart` manages customer items for a transaction. It handles calculations, including subtotals, tax, and total. It also provides methods for adjusting item quantities.
- `ReceiptPrinter` is dedicated to generating the receipt file. It formats the transaction data and writes it to a `.txt` file. It also ensures receipts are numbered sequentially across numerous transactions.
- `Main` manages the user interface and coordinates `Inventory`, `Cart`, and `ReceiptPrinter` classes to guide through a transaction.
- I used enums (`CustomerType` and `TaxStatus`) to define a fixed set of valid values.

Instructions to Execute

1. All the `.java` files are inside the `src` folder. `inventory.txt` file is in the root directory, alongside the `src` and `receipts` folders.

```
# project structure
Jerry_Quick_Mart/
  src/
    Cart.java
    CartItem.java
    CustomerType.java
    Inventory.java
    Main.java
    Product.java
    ReceiptPrinter.java
    TaxStatus.java
  receipts/
    tx_000001_20250925_020612.txt
```

```
tx_000002_20250925_020721.txt  
inventory.txt
```

2. Open a terminal and navigate to the project's directory and compile the source files.

```
# inside the root directory, where src and receipts folders are placed  
javac src/*.java
```

3. From the same directory run the app.

```
java -cp src Main inventory.txt
```

4. The application will go through the process. A new receipt `.txt` file will be generated in the `receipts` directory after an ok checkout.