****

**North South University**

Department of Electrical and Computer Engineering

**Lab Project Report**

Semester : NSU Spring 2023

Course Code : CSE 215L

Section : 16

Group Name : B

Faculty : Dr. Shamim Al Mamun (SAM3)

Lab Instructor : A. S. M. Sabiqul Hassan

Project Topic : (Grocery Store) Management System

GitHub Repo Link : <https://github.com/Anisa-Nahian/Grocery-Store-Managment-System>

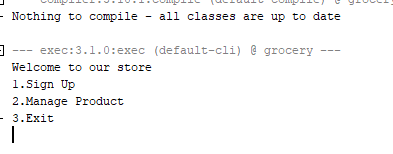
Submission Date : 16/06/2023

|  |  |
| --- | --- |
| Student Information | GitHub Account Links |
| 2212851042  Fahima Jinnurine Sami  fahima.sami@northsouth.edu | <https://github.com/fahima658> |
| 2221416042  Jannatun Naim  jannatun.naim1@northsouth.edu | <https://github.com/jannatunnaimgithub> |
| 2221826042  Dewan Anisa Nahian  dewan.nahian@northsouth.edu | <https://github.com/Anisa-Nahian> |
|  |  |

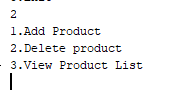
Our project is grocery store management system. The store has 3 features. Signup, Bill generation and Product management. We couldn’t do the entire project on gui, we could only manage to print our bill in jlabel. After shopping

the purchase details is stored in a file “Purchase History”. And it keeps updating the data after each customer shops.

Main menu :

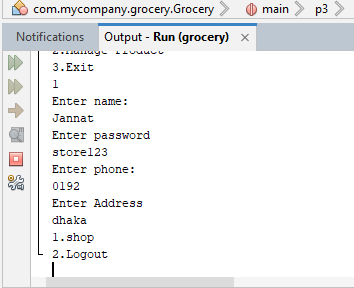


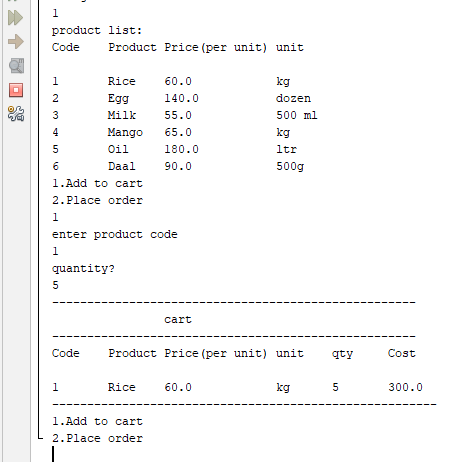
option 2 : manage product

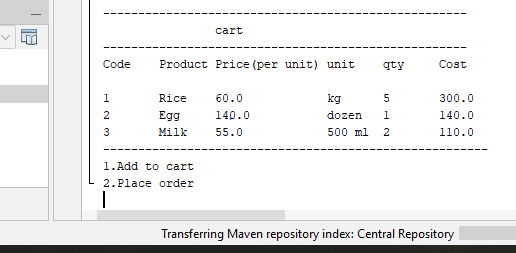


it lets you add delete and view product list.

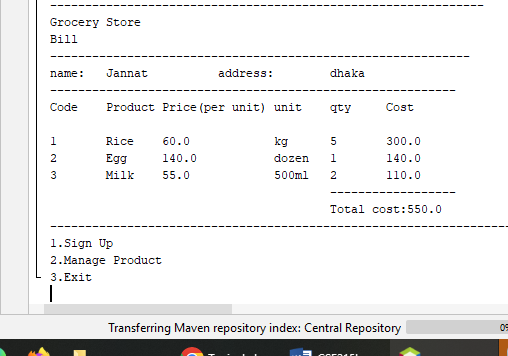
Option 1:



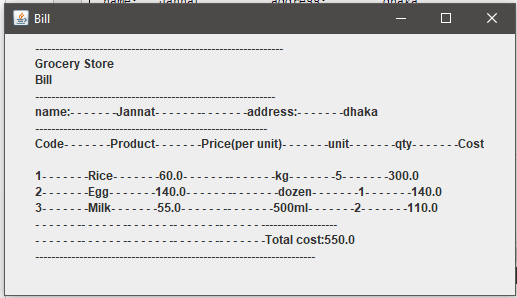


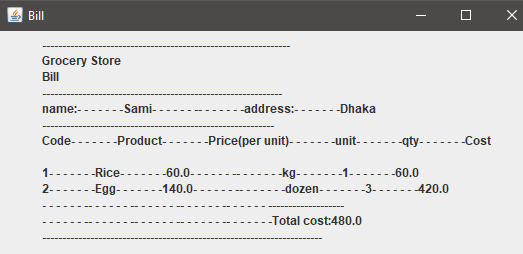


place order after adding products in your cart.



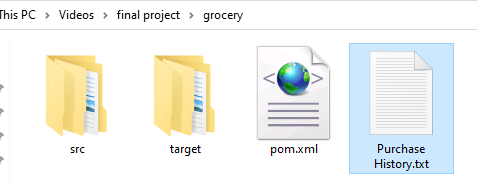
a jlabel pops up with the details of the bill



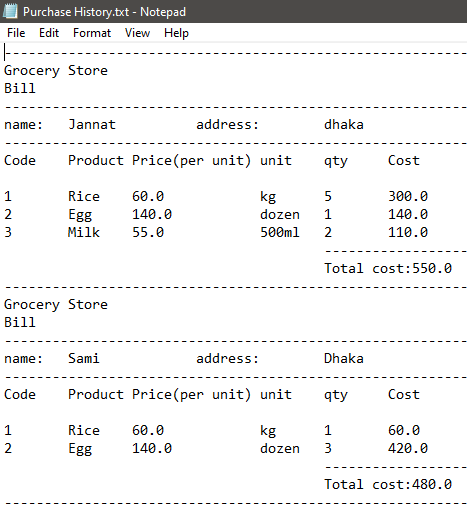


it’s not aligned as we couldn’t print \t .

the data gets stored in a file too. it keeps updating the data.



after multiple customer the file :



We have 6 classes under one package. Grocery is the main class. The rest of the classes are,

* Signup(abstract)
* Customer inherits signup and the toString method prints name and address from its parent class
* Product
* Purchase class has an instance of Product(has-a relation)
* Invoice has a Customer and array list of Purchase as data fields and generates the invoice.

***Codes:***

package com.mycompany.grocery;

import javax.swing.\*;

import java.io.BufferedWriter;

import java.io.FileWriter;

import java.io.IOException;

import java.io.Writer;

import java.util.Scanner;

import java.util.ArrayList;

public class Grocery extends JFrame{

static JFrame f;

static JLabel l;

public static void main(String[] args) {

Scanner sc=new Scanner(System.in);

ArrayList<Product> products=new ArrayList<Product>();

/\* this array list keeps the product list of the store\*/

int menu=0;

System.out.println("Welcome to our store");

while(menu!=3)

{

System.out.println("1.Sign Up");

System.out.println("2.Manage Product");

System.out.println("3.Exit");

menu=sc.nextInt();

if(menu==1)

{

String name;

String pass;

String phone;

String address;

sc.nextLine();

System.out.println("Enter name:");

name=sc.nextLine();

System.out.println("Enter password");

pass=sc.nextLine();

System.out.println("Enter phone:");

phone=sc.nextLine();

System.out.println("Enter Address");

address=sc.nextLine();

Customer customer=new Customer(name,pass,phone,address);

int smenu;

System.out.println("1.shop");

System.out.println("2.Logout");

smenu=sc.nextInt();

if(smenu==1)

{

ArrayList<Purchase> purchase=new ArrayList<Purchase>();

/\* purchase array list keeps updating the cart and later helps creting object of Invoice\*/

System.out.println("product list:");

System.out.println("Code\tProduct\tPrice(per unit)\tunit");

for(Product p: products)

{

System.out.print(p+"");

}

System.out.println("");

int n=0;

double sum=0;

while(n!=2)

{

System.out.println("1.Add to cart");

System.out.println("2.Place order");

n=sc.nextInt();

if(n==1)

{

int add;

System.out.println("enter product code");

add=sc.nextInt();

for(Product p:products)

{

if(p.getCode()==add)

{

int qty;

System.out.println("quantity?");

qty=sc.nextInt();

double cost=qty\*p.getPricePerUnit();

sum=sum+cost;

Purchase pur=new Purchase(p,qty,cost);

purchase.add(pur);

System.out.println("----------------------------------------------------");

System.out.println("\t\tcart");

System.out.println("----------------------------------------------------");

System.out.print("Code\tProduct\tPrice(per unit)\tunit\tqty\tCost\n");

for(Purchase i: purchase)

{

System.out.print(i+"");

}

System.out.println("\n-------------------------------------------------------");

}

}

}

if(n==2)

{

Invoice bill=new Invoice(customer,purchase);

System.out.println(bill+"");

try{

Writer w;

w = new BufferedWriter(new FileWriter("Purchase History.txt",true));

w.append(bill.toString());

w.close();

}

catch(IOException e)

{

System.out.println(e);

}

f = new JFrame("Bill");

l = new JLabel("<html>" + bill.toString().replaceAll("<","&lt;").replaceAll(">", "&gt;").replaceAll("\n", "<br/>").replaceAll("\t", "- - - - - - -") + "</html>");

/\* printed new line (\n) with html command\*/

JPanel p = new JPanel();

p.add(l);

f.add(p);

f.setSize(300, 300);

f.show();

}

}

}

}

if(menu==2)

{

int n;

System.out.println("1.Add Product");

System.out.println("2.Delete product");

System.out.println("3.View Product List");

n=sc.nextInt();

if(n==1)

{

int code;

String name;

double price;

String unit;

System.out.println("Code:");

code=sc.nextInt();

boolean doesExist=false;

for(Product i: products)

{

if(i.getCode()==code)

{

doesExist=true;

}

}

if(doesExist==true)

{

System.out.println("This barcode is already taken");

}

else

{

System.out.println("Product name");

sc.nextLine();

name=sc.nextLine();

System.out.println("price per unit:");

price=sc.nextDouble();

System.out.println("unit:");

sc.nextLine();

unit=sc.nextLine();

Product p=new Product(code,name,price,unit);

products.add(p);

System.out.println("Product List:");

System.out.println("Code\tProduct\tPrice(per unit)\tunit");

for(Product i: products)

{

System.out.print(i+"");

}

System.out.println("");

}

}

if(n==2)

{

int code;

System.out.println("Code\tProduct\tPrice(per unit)\tunit");

for(Product i: products)

{

System.out.print(i+"");

}

System.out.println("");

System.out.println("Enter code to delete product");

code=sc.nextInt();

for(int i=0;i<products.size();i++)

{

if(products.get(i).getCode()==code)

{

products.remove(i);

System.out.println("Updated product list:");

System.out.println("Code\tProduct\tPrice(per unit)\tunit");

for(Product p: products)

{

System.out.print(p+"");

}

System.out.println("");

}

}

}

if(n==3)

{

System.out.println("Product list:");

System.out.println("Code\tProduct\tPrice(per unit)\tunit");

for(Product p: products)

{

System.out.print(p+"");

}

System.out.println("");

}

}

}

}

}

package com.mycompany.grocery;

public abstract class SignUp {

private String name;

private String password;

private String phone;

private String address;

public SignUp() {

this.name = "";

this.password = "";

this.phone = "";

this.address = "";

}

public SignUp(String name, String password, String phone, String address) {

this.name = name;

this.password = password;

this.phone = phone;

this.address = address;

}

public void setName(String name) {

this.name = name;

}

public void setPassword(String password) {

this.password = password;

}

public void setPhone(String phone) {

this.phone = phone;

}

public void setAddress(String address) {

this.address = address;

}

public String getName() {

return name;

}

public String getPassword() {

return password;

}

public String getPhone() {

return phone;

}

public String getAddress() {

return address;

}

}

package com.mycompany.grocery;

public class Customer extends SignUp {

Customer()

{

super();

}

Customer(String name, String password, String phone, String address)

{

super(name,password,phone,address);

}

@Override

public String toString()

{

return "\nname:\t"+getName()+"\t\taddress:\t"+getAddress()+"\n"+

"----------------------------------------------------------\n";

}

}

package com.mycompany.grocery;

public class Product {

private int code;

private String productName;

private double pricePerUnit;

private String unit;

public Product() {

this.code=0;

this.productName = "";

this.pricePerUnit = 0;

this.unit = "";

}

public Product(int code,String productName, double pricePerUnit, String unit) {

this.code=code;

this.productName = productName;

this.pricePerUnit = pricePerUnit;

this.unit = unit;

}

public int getCode() {

return code;

}

public void setCode(int code) {

this.code = code;

}

public void setProductName(String productName) {

this.productName = productName;

}

public void setPricePerUnit(double pricePerUnit) {

this.pricePerUnit = pricePerUnit;

}

public void setUnit(String unit) {

this.unit = unit;

}

public String getProductName() {

return productName;

}

public double getPricePerUnit() {

return pricePerUnit;

}

public String getUnit() {

return unit;

}

@Override

public String toString() {

//return "code=" + code + ", productName=" + productName + ", pricePerUnit=" + pricePerUnit + ", unit=" + unit;

return "\n"+code+"\t"+productName+"\t"+pricePerUnit+"\t\t"+unit+"\t";

}

}

package com.mycompany.grocery;

public class Purchase{

private Product p;

private int quantity;

private double cost;

public Purchase() {

this.p=new Product(0,"",0,"");

this.quantity = 0;

this.cost = 0;

}

public Purchase(Product p,int quantity, double cost) {

this.p=p;

this.quantity = quantity;

this.cost = cost;

}

public void setP(Product p) {

this.p = p;

}

public void setQuantity(int quantity) {

this.quantity = quantity;

}

public void setCost(double cost) {

this.cost = cost;

}

public Product getP() {

return p;

}

public int getQuantity() {

return quantity;

}

public double getCost() {

return cost;

}

@Override

public String toString() {

return p.toString()+""+quantity+"\t"+cost;

}

}

package com.mycompany.grocery;

import java.util.ArrayList;

public class Invoice {

private Customer c;

private ArrayList<Purchase> purchase;

public Invoice() {

this.c = new Customer("","","","");

}

public Invoice(Customer c, ArrayList<Purchase> purchase) {

this.c = c;

this.purchase = purchase;

}

public void setC(Customer c) {

this.c = c;

}

public void setPurchase(ArrayList<Purchase> purchase) {

this.purchase = purchase;

}

public Customer getC() {

return c;

}

public ArrayList<Purchase> getPurchase() {

return purchase;

}

public double totalCost()

{

double sum=0;

for(Purchase i: purchase)

{

sum=sum+i.getCost();

}

return sum;

}

@Override

public String toString() {

String str="Code\tProduct\tPrice(per unit)\tunit\tqty\tCost\n";

String shop="--------------------------------------------------------------"

+ "\nGrocery Store\nBill\n------------------------------------------------------------";

return shop+c.toString()+str+ purchase.toString().replace("[","").replace("]","").replace(",","").replace(" ","")

+"\n\t\t\t\t\t------------------"

+"\n\t\t\t\t\tTotal cost:"+totalCost()+"\n----------------------------------------------------------------------"

;

}

}