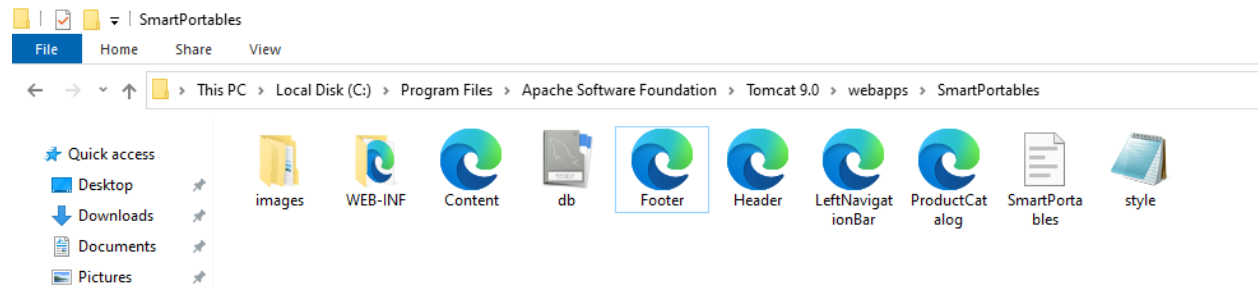


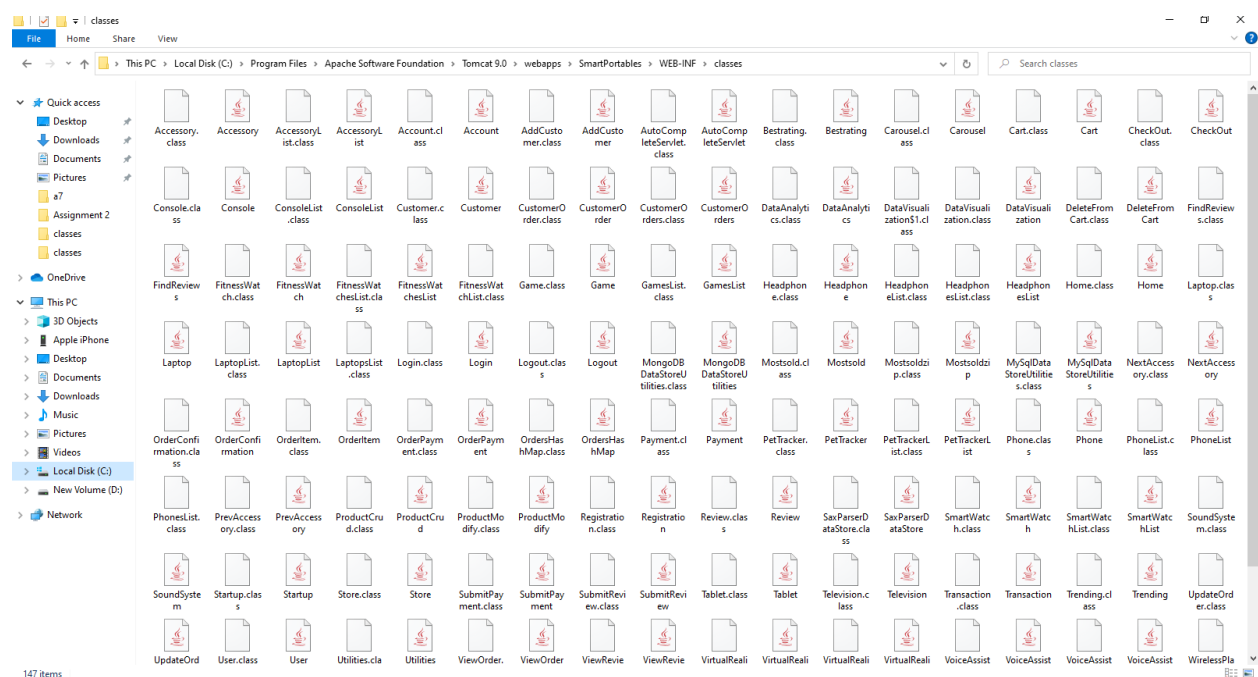
Divyeshkumar Bhupendrabhai Patel (A20495602)

Deliverable:

Use the object-oriented design principles and utilize the MVC architecture discussed in the class to produce an object-oriented web-based enterprise application that is reusable, flexible, and extensible.



Use Servlets to implement the functionalities listed below.



High-Level Requirements:

All accounts login information must be stored in SQL database (MySQL)

Result Grid						Filter Rows:	Edit:	Export/Import:	Wrap Cell Content:
	userId	userName	password	rePassword	userType				
▶	1	test	1	1	customer				
	2	m	m	m	storeManager				
	3	s	s	s	salesman				
	4	test1	1	1	customer				
	5	1	1	1	customer				
	6	manager	m	m	storeManager				
	7	manager 1	1	1	storeManager				
	8	sales	s	s	salesman				
	9	divyesh.user	1	1	customer				
	10	div	1	1	customer				

All Customers transactions/orders must be stored in SQL database (MySQL)

All order updates to insert/delete/update orders must be reflected in the MySQL database; not only the HashMap objects

Result Grid														Filter Rows:	Edit:	Export/Import:	Wrap Cell Content:
	orderId	userName	customerName	customerAddress	creditCardNo	purchaseDate	shipDate	productName	productType	productQuantity	productPrice	shippingCost	disc				
	6	test	Test User	31 Street PS, Chicago, IL - 60616	1213	10/06/2022	10/20/2022	Iphone 11	Phone	1	500	25	50				
	7	manager	Patel	400E 1700 LM, Chicago, IL - 60616	123456789	10/06/2022	10/20/2022	Fitbit Inspire 3	Fitness Watch	1	99.95	25	0				
▶	8	div	Div Patel	29th PS, Chicago, IL - 60616	1224324	10/06/2022	10/20/2022	Fitbit Inspire 3	Fitness Watch	1	99.95	25	0				
	9	sales	Patel	401E 32 Street, Chicago, IL - 60503	1234567890	10/06/2022	10/20/2022	Iphone 11	Phone	1	500	25	50				
	10	sales	Patel	401E 32 Street, Chicago, IL - 60616	1224324	10/06/2022	10/20/2022	Samsung S21	Phone	1	500	25	10				
	11	sales	Patel	400E 1700 LM, Chicago, IL - 60616	1224324	10/06/2022	10/20/2022	Google 6a	Phone	1	850	25	10				
	12	manager	Divyesh Patel	9 Stanley Ave, Dayton, NJ - 08810	324	10/07/2022	10/21/2022	Samsung S21	Phone	1	500	25	10				
	13	1	Patel	75th Street, Naperville, IL - 60631	123456789	10/10/2022		Fitbit Inspire 3	Fitness Watch	1	99.95	0	0				

Customer must be able to submit product reviews

SmartPortables

localhost:8080/SmartPortables/WriteReview

search here..

Home

Trending

ViewOrder

Hello,User5

Account

Logout

Cart(0)

Wearables

Fitness Watches

Smart Watches

Headphones

Virtual Reality

Pet Tracker

Phones

Apple

Samsung

Google

Laptops

Apple

HP

Microsoft

Dell

Review

Product Model Name: Iphone 11

Product Category: Phone

Product Price: 500.0

Manufacturer Name: Apple

User Name: user5

Review Rating: 5

Store: Bridgeport

Store City: Chicago

Store State: IL

Store Zip Code: 60309

Product on Sale: Yes

Manufacturer Rebate: No

User Age: 26

User Gender: Male

User Occupation: Student

Review Date: 10/11/2022

Review Text: Best Phone with good performance and throughput

Submit Review

SmartPortables

localhost:8080/SmartPortables/SubmitReview

Search Product: search here..

Home

Trending

ViewOrder

Hello,User5

Account

Logout

Cart(0)

Wearables

Fitness Watches

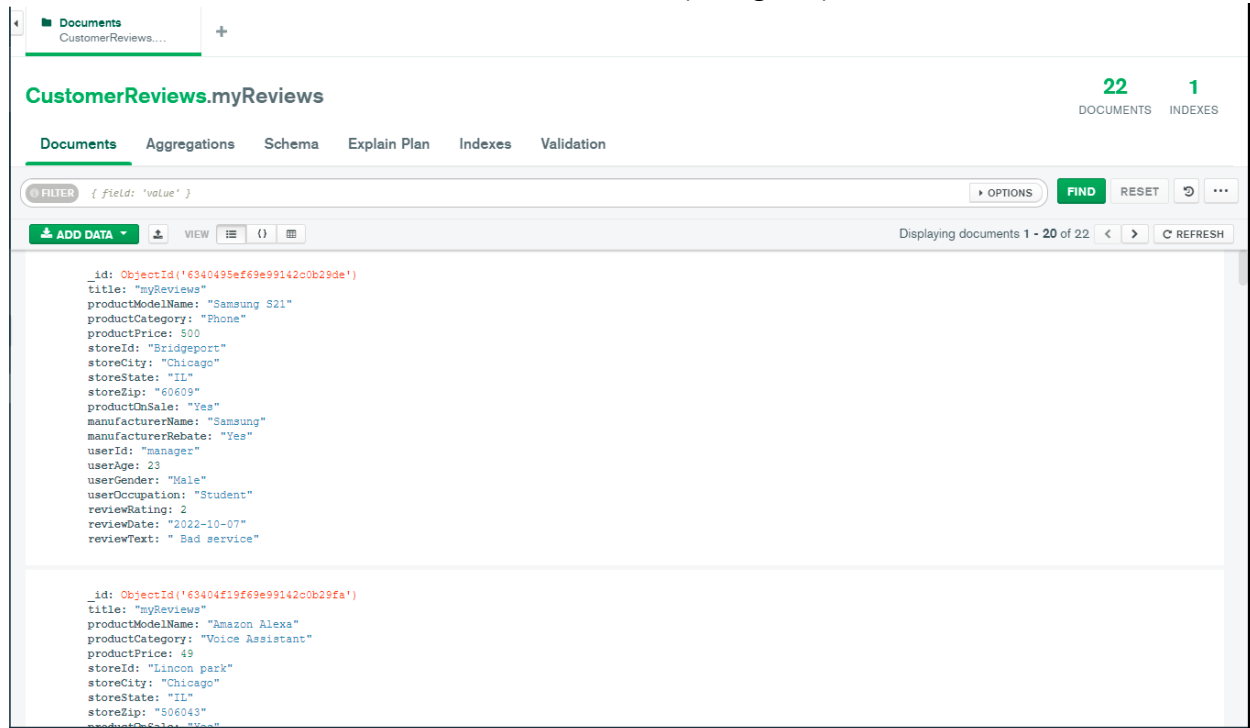
Smart Watches

Headphones

Review

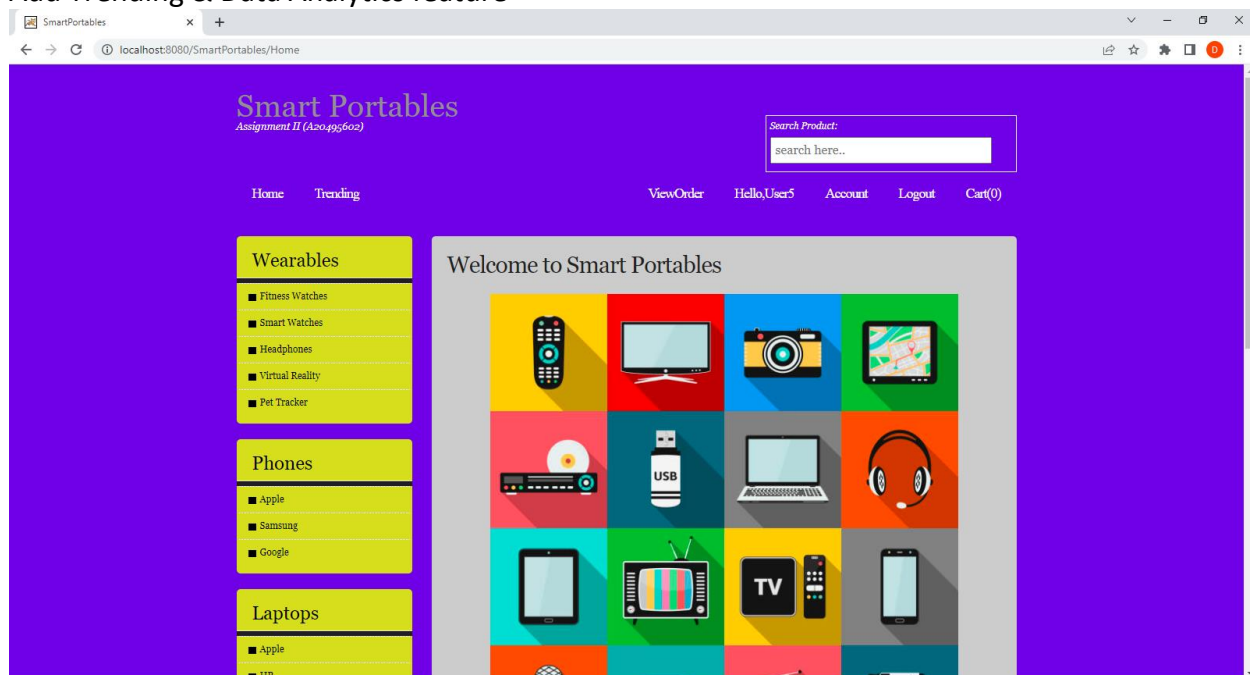
Review for Iphone 11 Stored

Product reviews must be stored in NoSQL database (MongoDB)

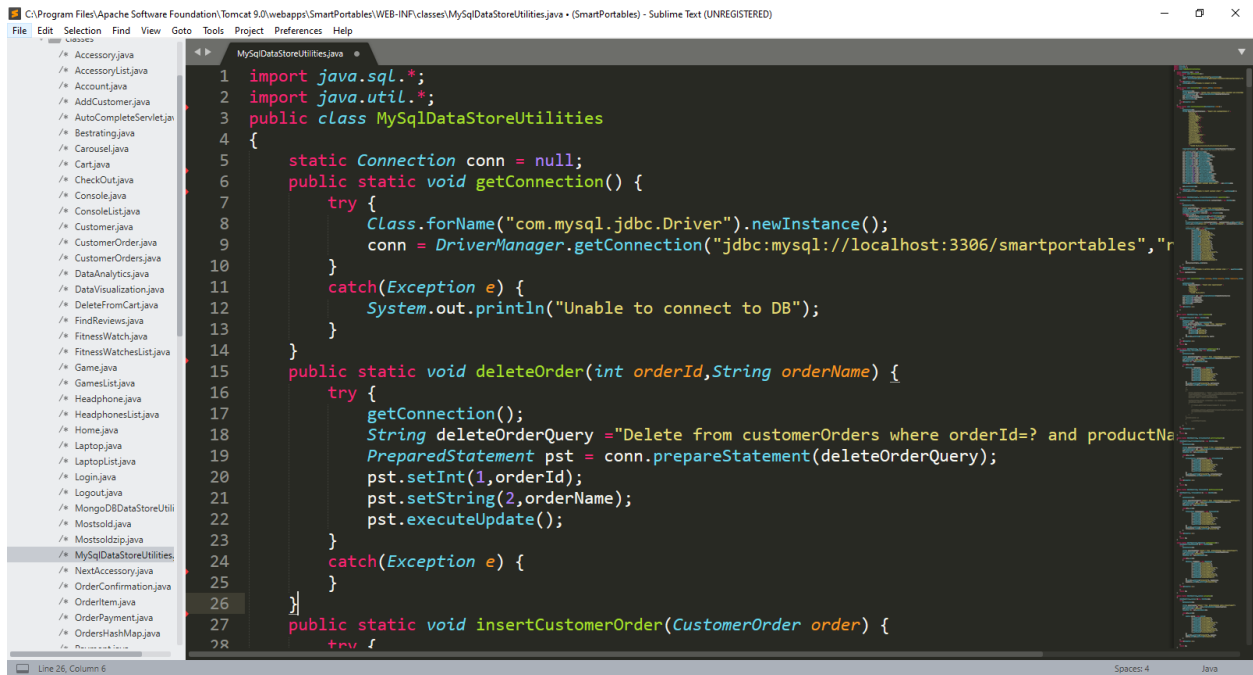


```
> db.myReviews.find();
{ "_id" : ObjectId("6340495ef69e99142c0b29de"), "title" : "myReviews", "productModelName" : "Samsung S21", "productCategory" : "Phone", "productPrice" : 500, "storeId" : "Bridgeport", "storeCity" : "Chicago", "storeState" : "IL", "storeZip" : "60609", "productOnSale" : "Yes", "manufacturerName" : "Samsung", "manufacturerRebate" : "Yes", "userId" : "manager", "userAge" : 23, "userGender" : "Male", "userOccupation" : "Student", "reviewRating" : 2, "reviewDate" : "2022-10-07", "reviewText" : " Bad service" }
{ "_id" : ObjectId("63404f19f69e99142c0b29fa"), "title" : "myReviews", "productModelName" : "Amazon Alexa", "productCategory" : "Voice Assistant", "productPrice" : 49, "storeId" : "Lincon park", "storeCity" : "Chicago", "storeState" : "IL", "storeZip" : "506043", "productOnSale" : "Yes", "manufacturerName" : "Amazon", "manufacturerRebate" : "Yes", "userId" : "manager", "userAge" : 12, "userGender" : "Male", "userOccupation" : "Lawyer", "reviewRating" : 3, "reviewDate" : "2022-10-03", "reviewText" : " BEST rEVIEW" }
{ "_id" : ObjectId("63404f62f69e99142c0b2a00"), "title" : "myReviews", "productModelName" : "Iphone 11", "productCategory" : "Phone", "productPrice" : 500, "storeId" : "75th Road", "storeCity" : "Naperville", "storeState" : "IL", "storeZip" : "506043", "productOnSale" : "Yes", "manufacturerName" : "Apple", "manufacturerRebate" : "Yes", "userId" : "manager", "userAge" : 23, "userGender" : "Male", "userOccupation" : "Lawyer", "reviewRating" : 1, "reviewDate" : "2022-10-03", "reviewText" : "Nice " }
{ "_id" : ObjectId("6344654459088d34692607fb"), "title" : "myReviews", "productModelName" : "Alienware M17", "productCategory" : "Laptop", "productPrice" : 1200, "storeId" : "75th Road", "storeCity" : "Naperville", "storeState" : "IL", "storeZip" : "506043", "productOnSale" : "Yes", "manufacturerName" : "Dell", "manufacturerRebate" : "Yes", "userId" : "manager", "userAge" : 23, "userGender" : "Male", "userOccupation" : "Lawyer", "reviewRating" : 4, "reviewDate" : "2022-10-03", "reviewText" : "Nice " }
```

Add Trending & Data Analytics feature

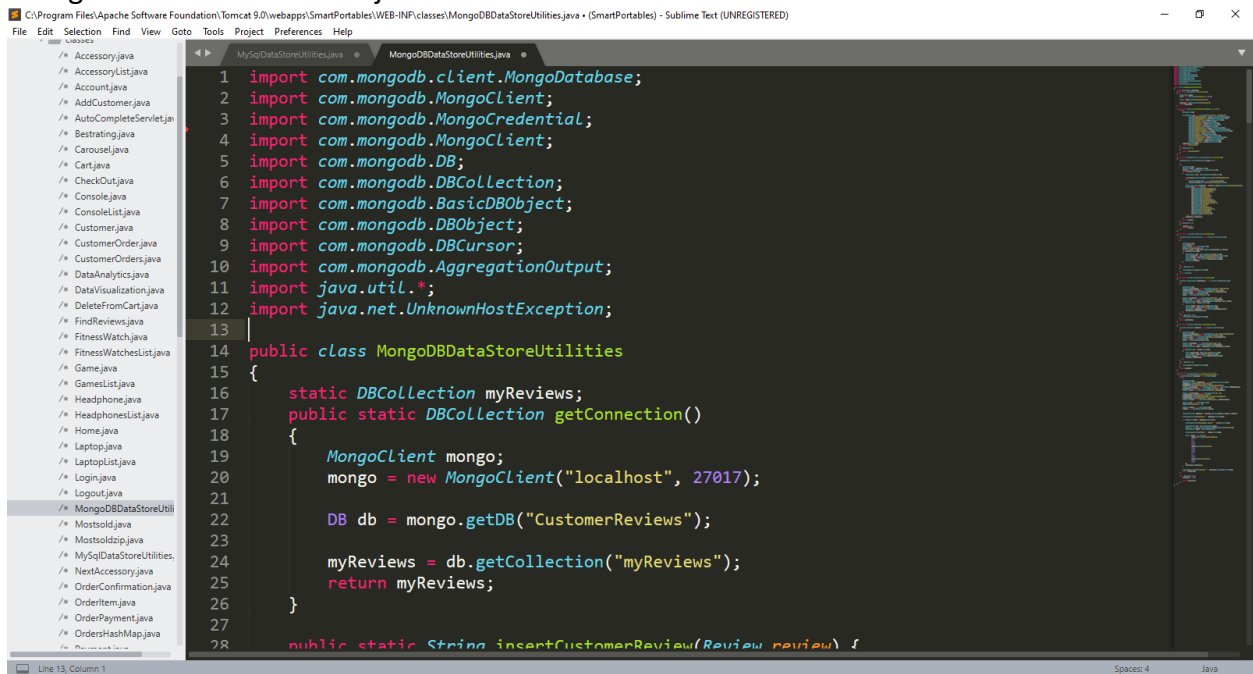


All new code added for MySQL shall be placed in a class called MySQLDataStoreUtilities.java



```
1 import java.sql.*;
2 import java.util.*;
3 public class MySQLDataStoreUtilities
4 {
5     static Connection conn = null;
6     public static void getConnection() {
7         try {
8             Class.forName("com.mysql.jdbc.Driver").newInstance();
9             conn = DriverManager.getConnection("jdbc:mysql://localhost:3306/smartportables", "r
10        }
11        catch(Exception e) {
12            System.out.println("Unable to connect to DB");
13        }
14    }
15    public static void deleteOrder(int orderId, String orderName) {
16        try {
17            getConnection();
18            String deleteOrderQuery = "Delete from customerOrders where orderId=? and productNa
19            PreparedStatement pst = conn.prepareStatement(deleteOrderQuery);
20            pst.setInt(1, orderId);
21            pst.setString(2, orderName);
22            pst.executeUpdate();
23        }
24        catch(Exception e) {
25        }
26    }
27    public static void insertCustomerOrder(CustomerOrder order) {
28        try {
```

All new code added for MongoDB shall be placed in a class called
MongoDBDataStoreUtilities.java



```
1 import com.mongodb.client.MongoDatabase;
2 import com.mongodb.MongoClient;
3 import com.mongodb.MongoCredential;
4 import com.mongodb.MongoClient;
5 import com.mongodb.DB;
6 import com.mongodb.DBCollection;
7 import com.mongodb.BasicDBObject;
8 import com.mongodb.DBObject;
9 import com.mongodb.DBCursor;
10 import com.mongodb.AggregationOutput;
11 import java.util.*;
12 import java.net.UnknownHostException;
13
14 public class MongoDBDataStoreUtilities
15 {
16     static DBCollection myReviews;
17     public static DBCollection getConnection()
18     {
19         MongoClient mongo;
20         mongo = new MongoClient("localhost", 27017);
21
22         DB db = mongo.getDB("CustomerReviews");
23
24         myReviews = db.getCollection("myReviews");
25         return myReviews;
26     }
27
28     public static String insertCustomerReview(Review review) {
```

You must have in your MySQL database at least 10 store locations with their addresses
(StoreID, street, city, state. Zip-code) for in-store-pickup orders

Result Grid	Filter Rows:	Edit:	Export/Import:	Wrap Cell Content:
storeId	street	city	state	zipcode
75th Road	75th Road	Naperville	IL	60631
Bridgeport	Bridgeport	Chicago	IL	60609
Capitol Ave	Capitol Ave	Aurora	IL	60503
Cottage Grove	Cottage Grove	Chicago	IL	60628
Depaul	Depaul	Chicago	IL	60614
Douglas	Douglas	Chicago	IL	60616
Lincon park	Lincon park	Chicago	IL	60622
O'Hare	O'Hare	Chicago	IL	60666
River North	River North	Chicago	IL	60610
South Loop	South Loop	Chicago	IL	60607
The Loop	The Loop	Chicago	IL	60616
Wrigleyville	Wrigleyville	Chicago	IL	60616
NULL	NULL	NULL	NULL	NULL

You must have in your MySQL database at least 20 customers with their addresses (customer name, street, city, state. Zip-code)

Result Grid

Filter Rows:





Edit:

Export/Import:

Wrap Cell Content:

customerId	customerName	street	city	state	zipcode
2	Divyesh	32 LM	Chicago	IL	60616
4	Divyesh Patel	401 E 32 LM	Chicago	IL	60616
5	Test User	31 Street PS	Chicago	IL	60616
6	Patel	400E 1700 LM	Chicago	IL	60616
7	Div Patel	29th PS	Chicago	IL	60616
8	Patel	401E 32 Street	Chicago	IL	60503
9	Patel	401E 32 Street	Chicago	IL	60616
10	Patel	400E 1700 LM	Chicago	IL	60616
11	Divyesh Patel	9 Stanley Ave	Dayton	NJ	08810
12	Patel	75th Street	Naperville	IL	60631
13	Cust1	400E	Chicago	IL	60616
14	Customer2	401E	Chicago	IL	60616
15	Customer3	29 PS	Chicago	IL	60616
16	Customer4	18th Racine Ave	Chcaigo	IL	60616

You must have in your MySQL database at least 20 transactions for customers in your database

Result Grid		 Filter Rows: <input type="text"/>		 Edit: <input type="text"/>		 Export/Import: <input type="text"/>		 Wrap Cell Content: <input type="text"/>						
	transactionId	orderId	userName	streetAddress	cityAddress	stateAddress	zipcode	creditCardNo	deliveryMethod	pickupStoreName	orderDate	deliveryDate	maxOrderCancellationDate	max
	2	2	div	401 E	Chicago	IL	60616	123456789	Home Delivery		10/6/2022	10/16/2022	10/10/2022	10/21
	3	3	div	402 E	Chicago	IL	60616	123456789	Home Delivery		10/6/2022	10/16/2022	10/10/2022	10/21
	4	4	div	403 E	Chicago	IL	60616	123456789	Home Delivery		10/6/2022	10/16/2022	10/10/2022	10/21
	5	5	div	404 E	Chicago	IL	60616	123456789	Home Delivery		10/6/2022	10/16/2022	10/10/2022	10/21
	6	6	div	405 E	Chicago	IL	60616	123456789	Home Delivery		10/6/2022	10/16/2022	10/10/2022	10/21
	7	7	div	406 E	Chicago	IL	60616	123456789	Home Delivery		10/6/2022	10/16/2022	10/10/2022	10/21
	8	8	div	407 E	Chicago	IL	60616	123456789	Home Delivery		10/6/2022	10/16/2022	10/10/2022	10/21

You must enter at least 20 reviews submitted by the customers who bought products with their address (customer name, street, city, state. Zip-code)

```
> show collections
myReviews
> db.myReviews.count();
22
```

Your transaction when placing an order for home-delivery or instore pickup must have at least the following attributes:

Order

Customer Name:	div
Product Purchased:	Amazon Alexa
Product Price:	49.0
Total Order Cost: \$	44.0

Customer Name	<input type="text"/>
Street	<input type="text"/>
City	<input type="text"/>
State	<input type="text"/>
Zip Code	<input type="text"/>
Delivery Method	Home Delivery ▼
Credit/accountNo	<input type="text"/>
<input type="button" value="Submit"/>	

Smart Portables

Assignment II (A20495602)

Search Product:

[Home](#)[Trending](#)[ViewOrder](#)[Hello,Div](#)[Account](#)[Logout](#)[Cart\(2\)](#)

Wearables

- Fitness Watches
- Smart Watches
- Headphones
- Virtual Reality
- Pet Tracker

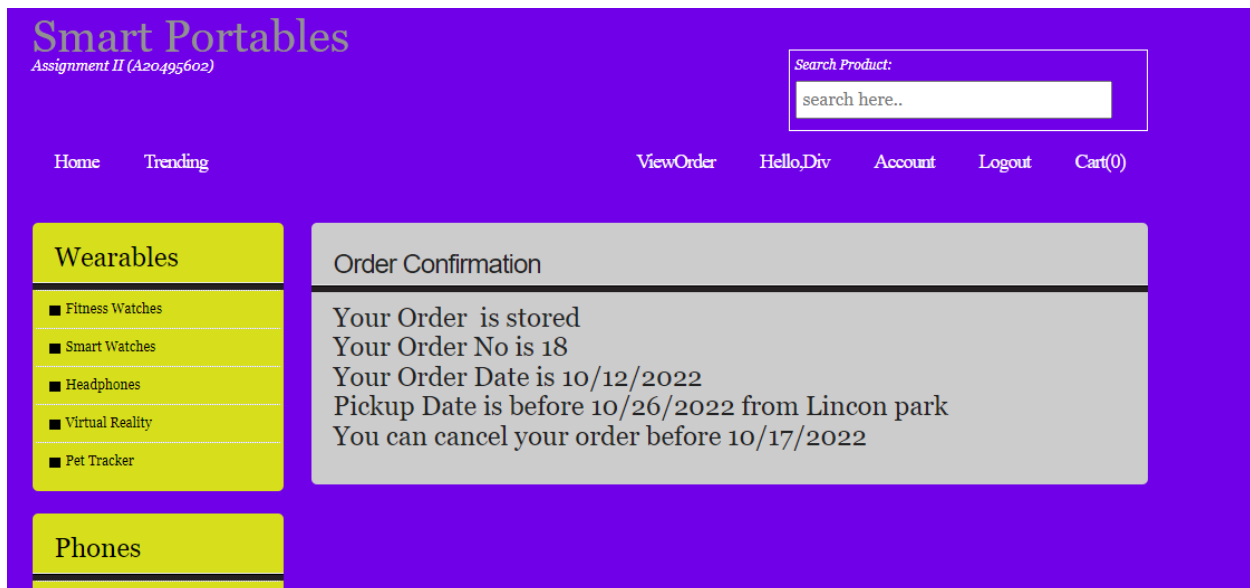
Phones

- Apple
- Samsung
- Google

Order Confirmation

Choose your pickup location

Pickup Store Name:	<div><div>75th Road ▼</div><div><div>75th Road</div><div>Bridgeport</div><div>Capitol Ave</div><div>Cottage Grove</div><div>Depaul</div><div>Douglas</div><div>Lincon park</div><div>O'Hare</div><div>River North</div><div>South Loop</div><div>The Loop</div><div>Wrigleyville</div></div></div>
--------------------	--



Required Functionalities:

Use MySQL to store all store locations

	storeId	street	city	state	zipcode
▶	75th Road	75th Road	Naperville	IL	60631
	Bridgeport	Bridgeport	Chicago	IL	60609
	Capitol Ave	Capitol Ave	Aurora	IL	60503
	Cottage Grove	Cottage Grove	Chicago	IL	60628
	Depaul	Depaul	Chicago	IL	60614
	Douglas	Douglas	Chicago	IL	60616
	Lincon park	Lincon park	Chicago	IL	60622
	O'Hare	O'Hare	Chicago	IL	60666

Use MySQL to store all Products

productType	productId	productName	productPrice	productImage	productManufacturer	productCondition	productDiscount	productRebate	productHasWar	productWarranty	product
Laptop	alienware_M17	Alienware M17	1800	alienware-m17.jpg	Dell	New	150	1	1	200	Best for
Voice Assistant	amazon_alexa_Phone	Amazon Alexa	49	amazon-alexa.jpg	Amazon	New	5	1	1	12	Amazon!
Voice Assistant	apple_Homepod_Mini	Apple Homepod Mini	50	apple-homepod-mini.jpg	Apple	New	0	1	1	25	Mini hom
Laptop	apple_Macbook_Pro_16	Apple Macbook Pro 16	1999	apple-mac-pro-16.jpg	Apple	New	100	1	1	150	Best for
Fitness Watch	fitbit_Inspire_3	Fitbit Inspire 3	99.95	fitness-watch-01.jpg	Fitbit	New	5	1	1	25	New Fitn
Smart Watch	galaxy_Watch_5	Galaxy Watch 5	115	samsung-smartwatch.jpg	Samsung	New	5	1	1	25	Manage
Phone	google_6a_Phone	Google 6a	850	google6a.jpg	Google	New	10	1	1	100	Best Bat

Use MySQL to store all accounts login information

	userId	userName	password	rePassword	userType
▶	1	test	1	1	customer
	2	m	m	m	storeManager
	3	s	s	s	salesman
	4	test1	1	1	customer
	5	1	1	1	customer
	6	manager	m	m	storeManager
	7	manager1	1	1	storeManager
	8	sales	s	s	salesman

Use MySQL to store All Customers transactions/orders

	orderId	userName	customerName	customerAddress	creditCardNo	purchaseDate	shipDate	productName	productType	productQuantity	productPrice	shippingCost	discountPrice	orderTotal
▶	6	test	Test User	31 Street PS, Chicago, IL - 60616	1213	10/06/2022	10/20/2022	Iphone 11	Phone	1	500	25	50	475
	7	manager	Patel	400E 1700 LM, Chicago, IL - 60616	123456789	10/06/2022	10/20/2022	Fitbit Inspire 3	Fitness Watch	1	99.95	25	0	124.95
	8	div	Div Patel	29th PS, Chicago, IL - 60616	1224324	10/06/2022	10/20/2022	Fitbit Inspire 3	Fitness Watch	1	99.95	25	0	124.95
	9	sales	Patel	40 IE 32 Street, Chicago, IL - 60503	1234567890	10/06/2022	10/20/2022	Iphone 11	Phone	1	500	25	50	1450
	10	sales	Patel	40 IE 32 Street, Chicago, IL - 60616	1224324	10/06/2022	10/20/2022	Samsung S21	Phone	1	500	25	10	515
	11	sales	Patel	400E 1700 LM, Chicago, IL - 60616	1224324	10/06/2022	10/20/2022	Google 6a	Phone	1	850	25	10	865
	12	manager	Divyesh Patel	9 Stanley Ave, Dayton, NJ - 08810	324	10/07/2022	10/21/2022	Samsung S21	Phone	1	500	25	10	515

Consider creating a table for Stores, Products, Customers, and Transactions in your MySQL database

Tables_in_smartportables
customer
customerorders
productaccessories
productdetails
registration
store
transactions

Extend Assignment #1 in order to allow the customer to write and submit a Product Review online that has the following form:

Review

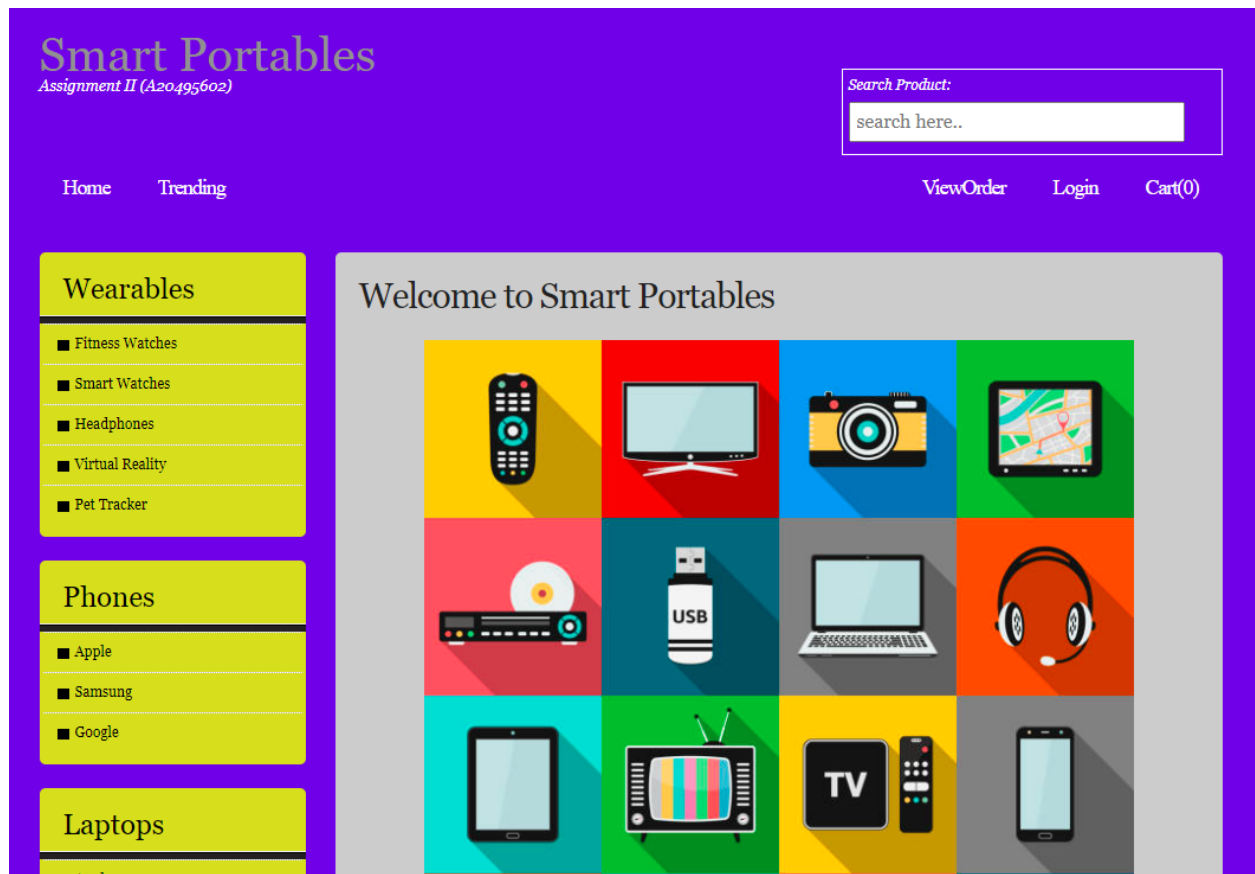
Product Model Name:	Iphone 11
Product Category:	Phone
Product Price:	500.0
Manufacturer Name:	Apple
User Name:	div

Review Rating: 1 ▼
Store: 75th Road ▼
Store City:
Store State:
Store Zip Code:
Product on Sale: Yes ▼
Manufacturer Rebate: Yes ▼
User Age:
User Gender: Male ▼
User Occupation:
Review Date: 10/12/2022

Review Text:

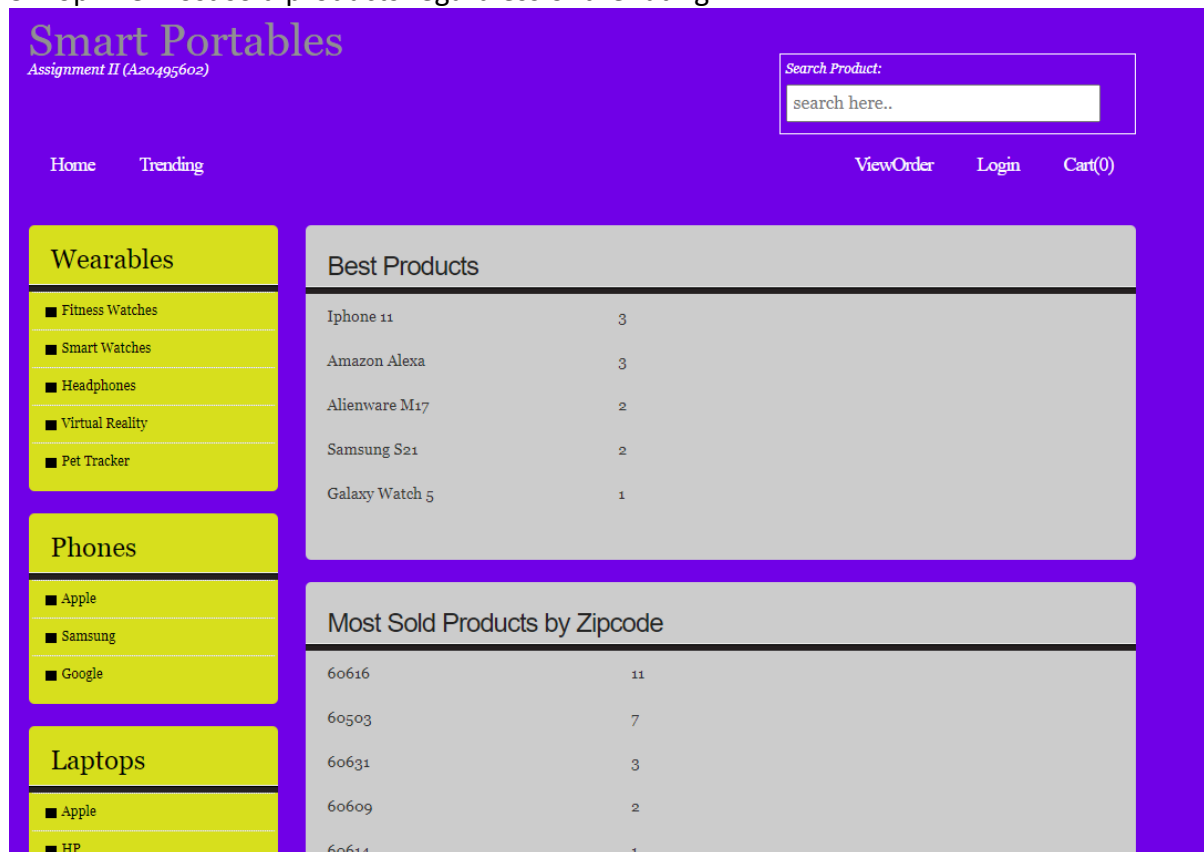
Submit Review

Extend Assignment #1 to add Trending link on the left navigation bar that the user can use to see trends for sold products



Once the user clicks the Trending, the user must be presented with :

1. Top five most liked products
2. Top five zip-codes where maximum number of products sold
3. Top five most sold products regardless of the rating



Phones

■ Apple

■ Samsung

■ Google

Laptops

■ Apple

■ HP

■ Microsoft

■ Dell

Assistant

■ Google

■ Apple

■ Amazon

Most Sold Products by Zipcode

60616	11
60503	7
60631	3
60609	2
60614	1

Most Sold Products

Amazon Alexa	9
Apple Macbook Pro 16	5
Samsung S21	3
Galaxy Watch 5	1
HP Envy 360	1

Smart Portables

Assignment II (A20495602)

Search Product:

search here..

Home

Trending

ViewOrder

Hello,User

Account

Logout

Cart(1)

Wearables

■ Fitness Watches

■ Smart Watches

■ Headphones

■ Virtual Reality

■ Pet Tracker

Phones

■ Apple

■ Samsung

■ Google

Laptops

■ Apple

■ HP

Review

Product Model Name	Iphone 11
User Name	manager
Price	500.0
Store Name:	75th Road, Naperville, IL - 506043
Review Rating:	1
Review Date:	2022-10-03
Review Text:	Nice
Product Model Name	Iphone 11
User Name	1
Price	500.0
Store Name:	75th Road, Naperville, IL - 60631
Review Rating:	1
Review Date:	2022-10-10
Review Text:	Best store in the city
Product Model Name	Iphone 11

MongoDB Compass - localhost:27017/CustomerReviews.myReviews

Connect View Collection Help

localhost:27017

5 DBS 5 COLLECTIONS

HOST localhost:27017

CLUSTER Standalone

EDITION MongoDB 5.0.13 Community

My Queries

Databases

Filter your data

CustomerReviews

myReviews

admin

config

local

smartportablesreviews

Documents CustomerReviews...

CustomerReviews.myReviews

Documents Aggregations Schema Explain Plan Indexes Validation

FILTER { field: 'value' }

OPTIONS FIND RESET

ADD DATA VIEW

Displaying documents 21 - 23 of 23

REFRESH

```
manufacturerName: "Apple"
manufacturerRebate: "No"
userId: "user5"
userAge: 26
userGender: "Male"
userOccupation: "Student"
reviewRating: 3
reviewDate: "2022-10-11"
reviewText: " Best Phone with good performance and throughput"

_id: ObjectId("6348874567bbd3e54f591e8")
title: "myReviews"
productModelName: "Iphone 11"
productCategory: "Phone"
productPrice: 850
storeId: "Cottage Grove"
storeCity: "Chicago"
storeState: "IL"
storeZip: "60616"
productOnSale: "Yes"
manufacturerName: "Apple"
manufacturerRebate: "Yes"
userId: "user0"
userAge: 25
userGender: "Male"
userOccupation: "Student"
reviewRating: 5
reviewDate: "2022-10-13"
reviewText: " Very good product but price is bit high."
```

SmartPortables

localhost:8080/SmartPortables/PhoneList?maker=apple

Smart Portables

Assignment II (A30495602)

Search Product:

search here..

Home Trending Addproduct ViewOrder Hello,Manager Logout Cart(0)

Wearables

- Fitness Watches
- Smart Watches
- Headphones
- Virtual Reality
- Pet Tracker




Phones

- Apple
- Samsung
- Google

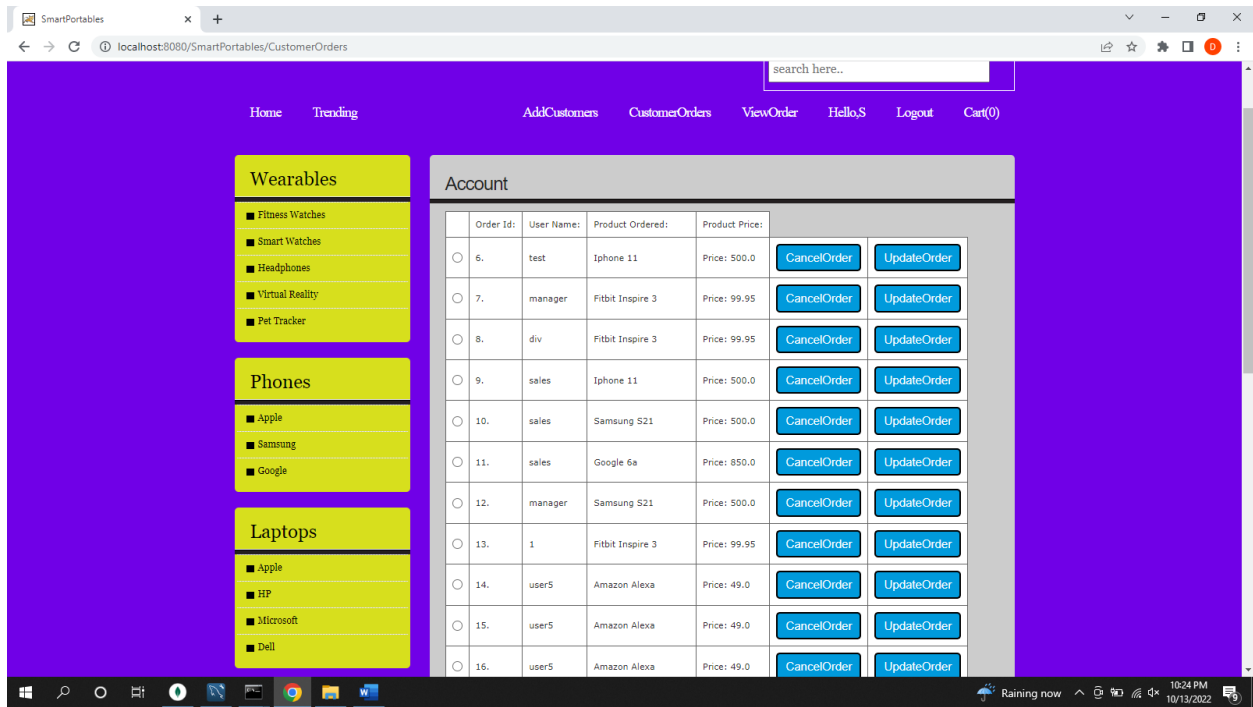
Laptops

- Apple
- HP

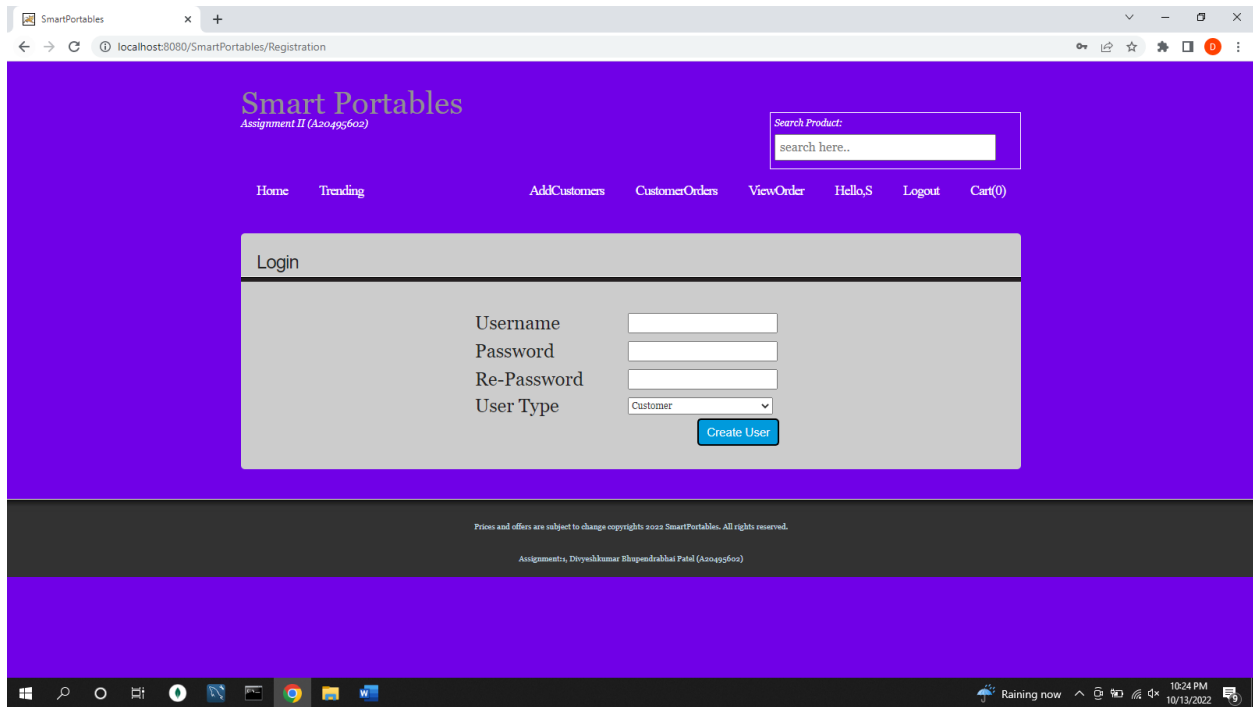
Apple Phones

<p>iPhone 11</p> <p>Apple iPhone 11 with new touch lock</p> <p>\$850.0</p> <p>Discount: \$75.0</p>  <p>Life Time Warranty: \$50.0</p> <p>Buy Now</p> <p>WriteReview ViewReview</p> <p>Update Delete</p>	<p>iPhone 14</p> <p>Latest Apple Phone</p> <p>\$1000.0</p> <p>Discount: \$25.0</p>  <p>Life Time Warranty: \$60.0</p> <p>Buy Now</p> <p>WriteReview ViewReview</p> <p>Update Delete</p>	<p>iPhone 12</p> <p>Apple Latest Phone</p> <p>\$600.0</p> <p>Discount: \$15.0</p>  <p>Life Time Warranty: \$75.0</p> <p>Buy Now</p> <p>WriteReview ViewReview</p> <p>Update Delete</p>
--	--	---

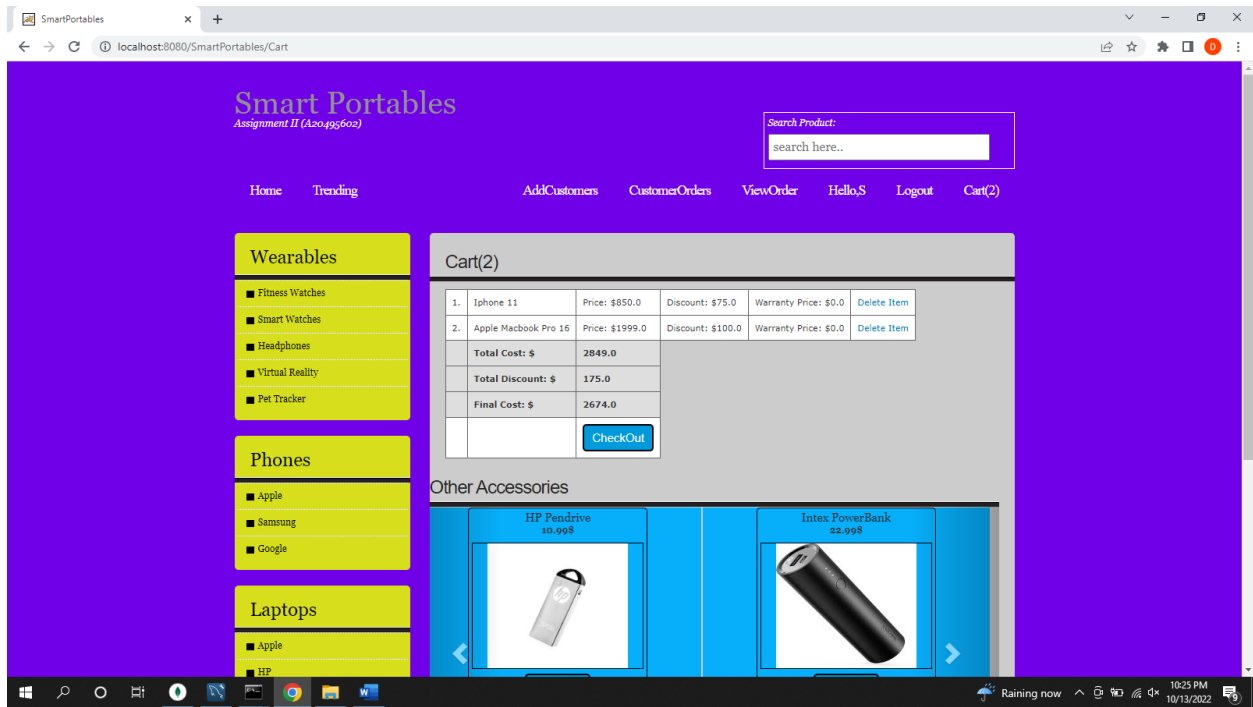
Listing all orders from every account from sales account.



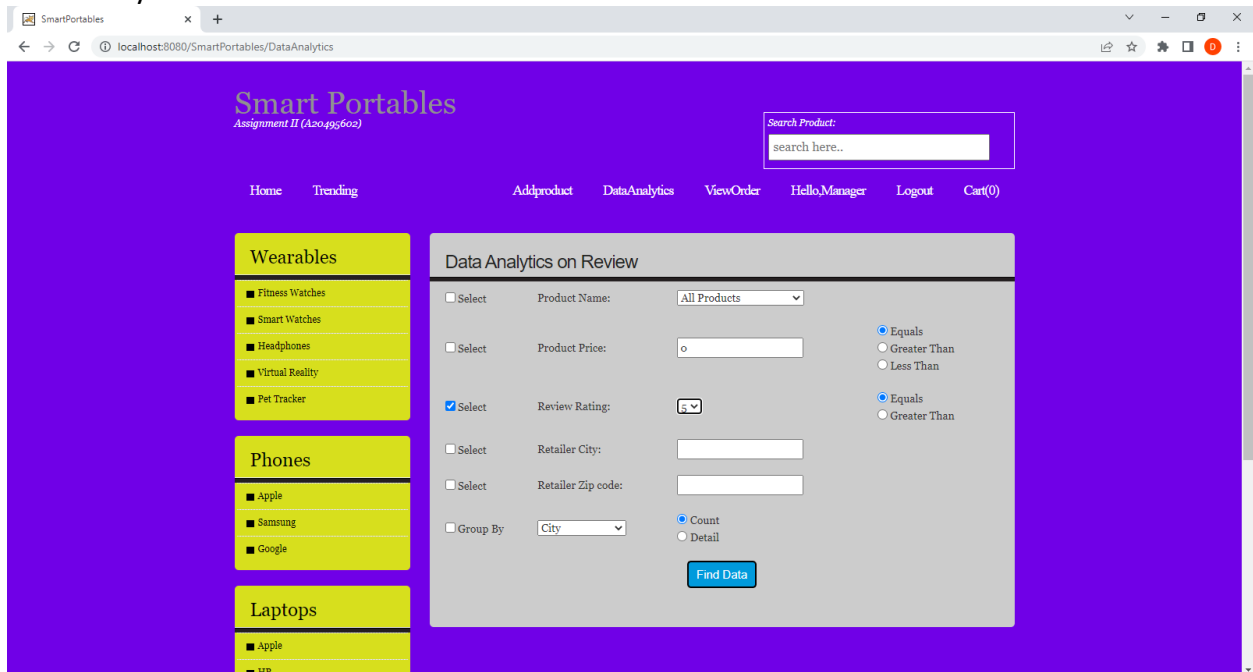
Create online account



Cart with accessories



Data Analytics



SmartPortables

localhost:8080/SmartPortables/FindReviews

Smart Portables

Assignment II (A30495602)

Search Product:
search here..

Home

Trending

Addproduct

DataAnalytics

ViewOrder

Hello,Manager

Logout

Cart(0)

Wearables

Fitness Watches

Smart Watches

Headphones

Virtual Reality

Pet Tracker

Phones

Apple

Samsung

Google

Laptops

Apple

HP

DataAnalytics on Review

Review	
Product Model Name:	Iphone 11
Product Rating:	5
Product Price:	850.0
Store City:	Chicago
Review Date:	2022-10-13
Review Text:	Very good product but price is bit high.
Store ZipCode:	60616

Review	
Product Model Name:	iPhone 14
Product Rating:	5
Product Price:	1000.0
Store City:	Aurora
Review Date:	2022-10-14
Review Text:	Bets phone at low price and can buy with credit card and installment.

48°F Partly sunny

9:16 AM
10/16/2022