Database Management for Online and Retail Store

Group 28
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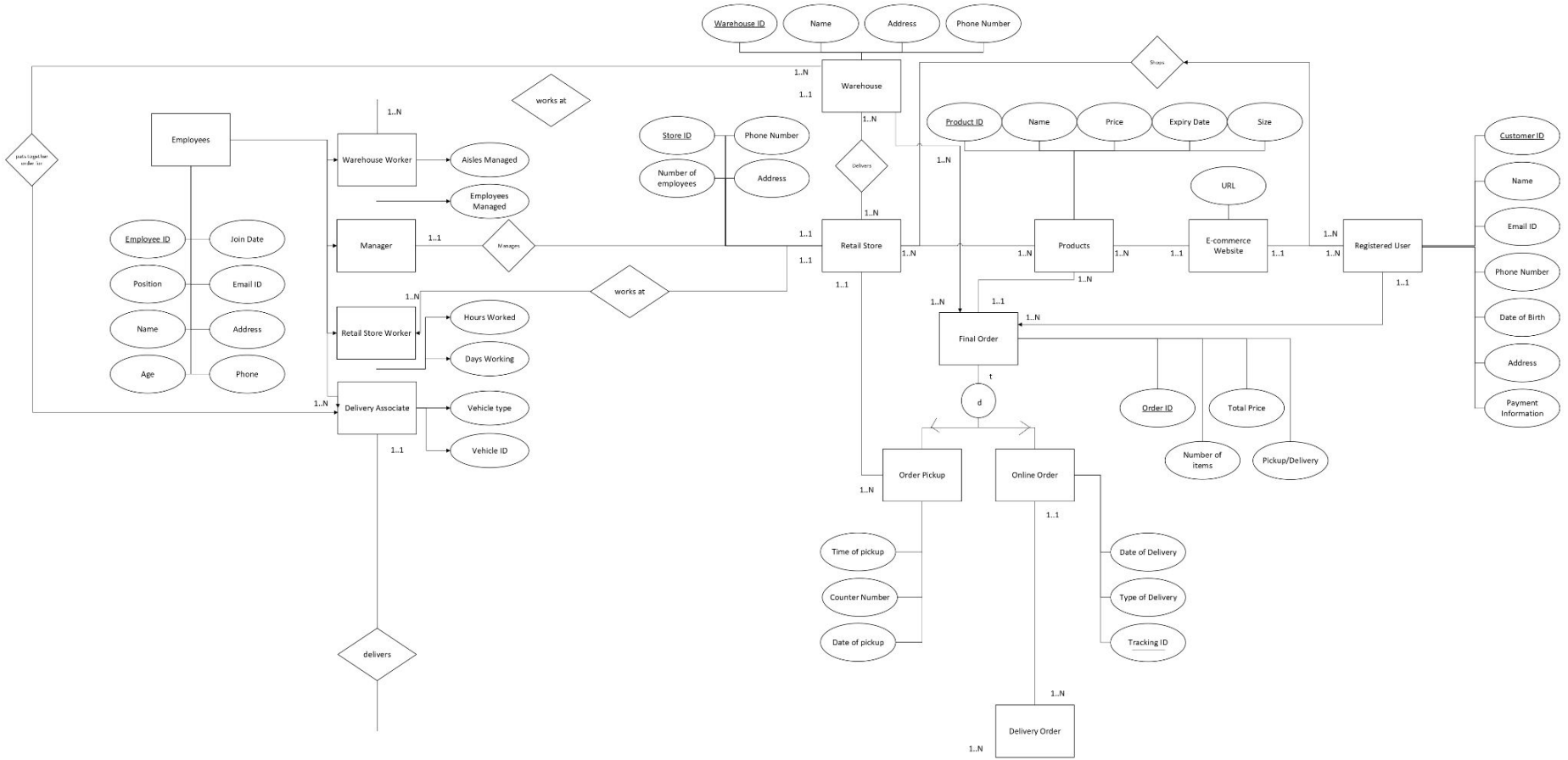
Problem Statement

- The business problem that is being implemented here, is for a database system of a retail and e-commerce store.
- Information about the Warehouse, Retail Store, the employees that are part of the entire operation.
- This database will also contain information about the e-commerce website, the products that are available at the retail and the e-commerce website, the final order and if it is an online order or an in person pick up of their order.
- This database also has information regarding the products in stock, the customer orders, the registered customer and also the employee information

EER Diagram of the Database



SQL Query-1

In a recent news it was said that there's swine flu in Colorado hence all meat products especially chicken have been contaminated, hence the supermarket has decided to recall all the chicken products sold to customers that came from Warehouse in Colorado. Retrieve the list of all the customers the supermarket should contact.

```
5
6   select user_ID,user_name,user_PhoneNo,user_email
7   from DMA_Project_1.Registered_User2
8   where user_ID in(
9                   select user_ID from DMA_Project_1.Warehouse_Order as WO inner join DMA_Project_1.Final_Order as FO
10                  where WO.finorder_ID = FO.finorder_ID and
11                  WO.WH_ID in (select WH_ID from DMA_Project_1.Warehouse where WH_Name like "%colorado%") and
12                  FO.finorder_ID in ( select finorder_ID from DMA_Project_1.Order_Product as OP inner join DMA_Project_1.Product as P
13                  where OP.prod_ID = P.prod_ID and P.prod_name like "%chicken%"));
14
```

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Result Grid | Filter Rows: Search | Export:

user_ID	user_name	user_PhoneNo	user_email
28-2297938	Ashika Kalmadi	617-206-8766	ashika@ezinearticles.com
18-2217938	Ishita Kalmadi	617-226-8766	ishita@ezinearticles.com
28-2297123	Luna Potter	617-216-8766	luna@ezinearticles.com
28-2297121	Harry Potter	617-006-8766	harry@ezinearticles.com

Result Grid | Form Editor

SQL Query-2

Registered user Samantha received her order however, there was one item missing in the order. She informed the customer care about the same. Retrieve the contact details of the warehouse the customer care should contact in order to check about Samantha's order.

```
20  select * from DMA_Project_1.Warehouse
21  where WH_ID in(
22                  select WH_ID
23                  from DMA_Project_1.Delivery_Associate
24                  where finorder_ID in (
25                                        select finorder_ID
26                                        from DMA_Project_1.Final_Order
27                                        where user_ID in (
28                                                          select user_ID
29                                                          from DMA_Project_1.Registered_User2
30                                                          where user_name like '%samantha%')));
31
```

100% 53:30

Result Grid | Filter Rows: Search | Export:

WH_ID	WH_Name	Wh_Phone	WH_address
33-7488679	Rio Grande	461-656-7003	Nevada

Result Grid

SQL Query-3

Generation wise spending habits of registered customers

```
79  Select
80  case
81      when year(user_DoB) between 1945 and 1964 then "Baby Boom Generation"
82      when year(user_DoB) between 1965 and 1980 then "Gen X"
83      when year(user_DoB) between 1981 and 1996 then "Millennial"
84      when year(user_DoB) between 1997 and 2010 then "Gen Z"
85      else "Silent Generation"
86
87  end as user_DoB , Avg(FO.finorder_totalprice) as Average_Money_Spent_Generation_wise
88  From DMA_Project_1.Registered_User2  as RU inner join DMA_Project_1.Final_Order_Data as FO
89  on FO.user_ID = RU.user_ID
90  Group by
91          case
92              when year(user_DoB) between 1945 and 1964 then "Baby Boom Generation"
93              when year(user_DoB) between 1965 and 1980 then "Gen X"
94              when year(user_DoB) between 1981 and 1996 then "Millennial"
95              when year(user_DoB) between 1997 and 2010 then "Gen Z"
96              else "Silent Generation"
97          end
98  ;
```

100% 2:98

Result Grid Filter Rows: Search Export:

user_DoB	Average_Money_Spent_Generation_w...
Gen X	333.8181818181818
Gen Z	323.2857142857143
Millennial	304

SQL Query-4

```
120  select prod_type as PRODUCT ,YEAR(prod_expiry_date)as YEAR,sum(prod_quantity) as SUM_OF_PRODTYPE
121  from Project_Data.Product
122  where prod_type like "%vegan%" or prod_type like "%meat%" group by YEAR(prod_Expiry_date),prod_type
123  Order by YEAR(prod_Expiry_date);
124
125
126
```

100% 1:125

Result Grid Filter Rows: Search Export:

PRODUCT	YEAR	SUM_OF_PRODTYPE
Deli(meat)	2013	6900
Vegan(meat)	2013	80
Deli(meat)	2014	5100
Vegan(meat)	2014	100
Deli(meat)	2015	5000
Vegan(meat)	2015	500
Deli(meat)	2016	4500
Vegan(meat)	2016	3800
Deli(meat)	2017	4000
Vegan(meat)	2017	200
Deli(meat)	2018	3800
Vegan(meat)	2018	4000
Deli(meat)	2019	3500
Vegan(meat)	2019	4800
Deli(meat)	2020	1000
Vegan(meat)	2020	5100
Deli(meat)	2021	500
Vegan(meat)	2021	5500
Deli(meat)	2022	3106
Vegan(meat)	2022	6000

Result 8

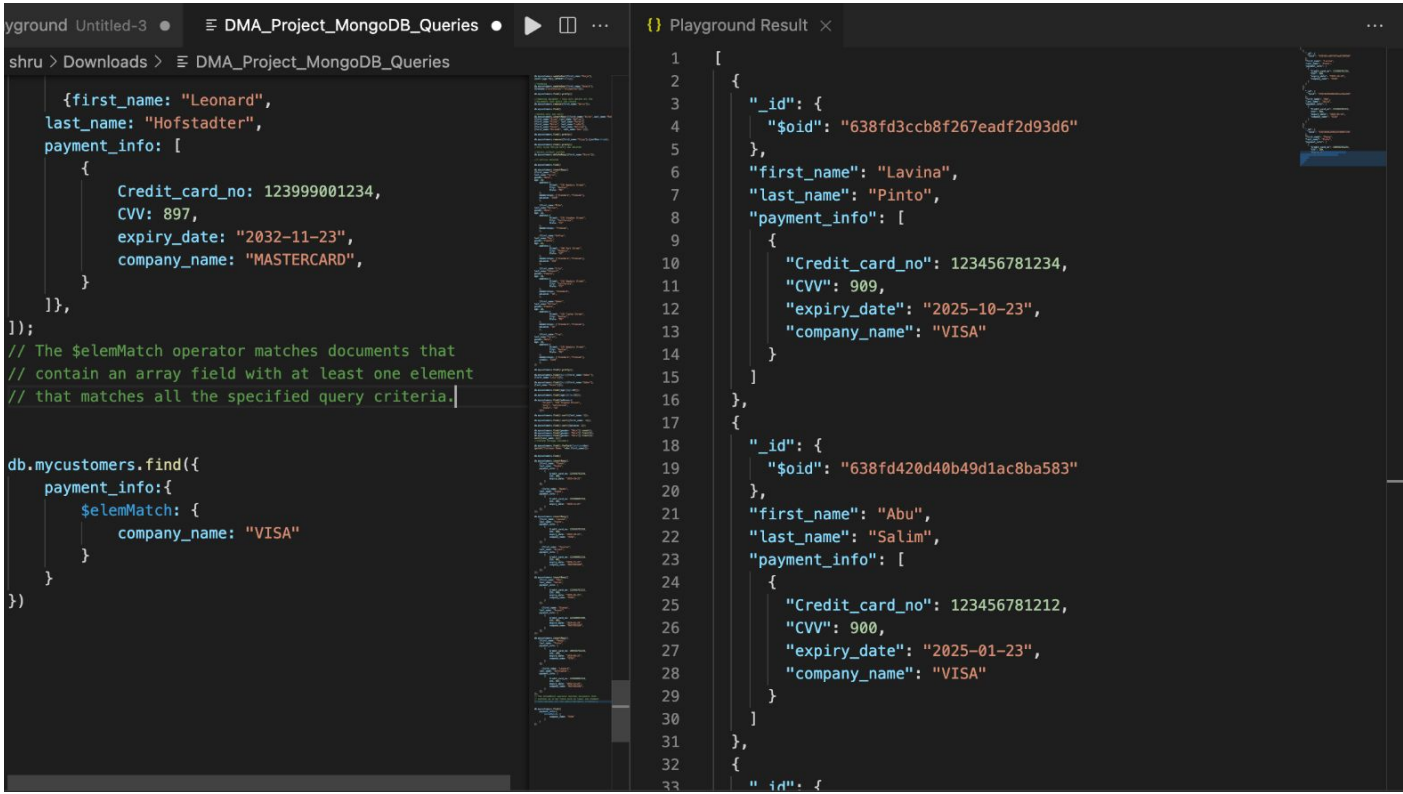
Action Output

	Time	Action	Response
38	16:45:36	select prod_type as PRODUCT ,YEAR(prod_expiry_date)as YEAR,sum(prod_quantity) as SUM_...	20 row(s) returned

Year wise trend of vegan products vs meat products

NoSQL Query-1

Retrieve the list of all Customer names who use a VISA credit card.



NoSQL Query-2

```
211  //iterate through customers
212
213  db.mycustomers.find().forEach(function(doc)
214  {print("Customer Name: "+doc.first_name)});
     ▶ Run Selected Lines From Playground
215
216
```

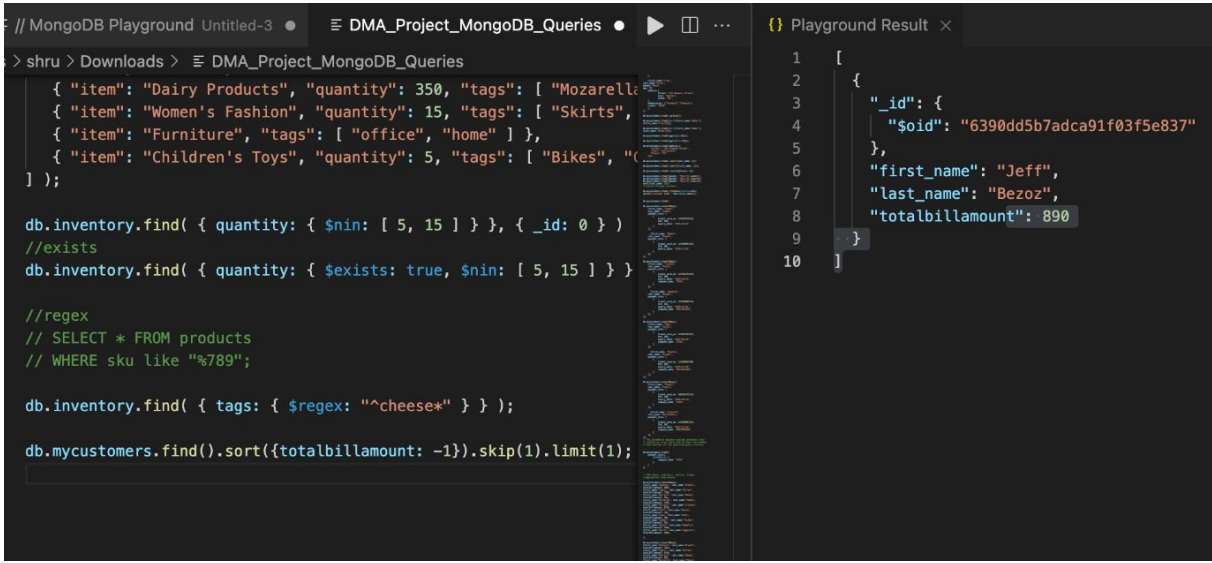
PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

```
Customer Name: John
Customer Name: Donald
Customer Name: Vijay
Customer Name: Susan
Customer Name: Miranda
Customer Name: Troy
Customer Name: Mike
Customer Name: Ashley
Customer Name: Lily
Customer Name: Amber
Customer Name: Troy
```

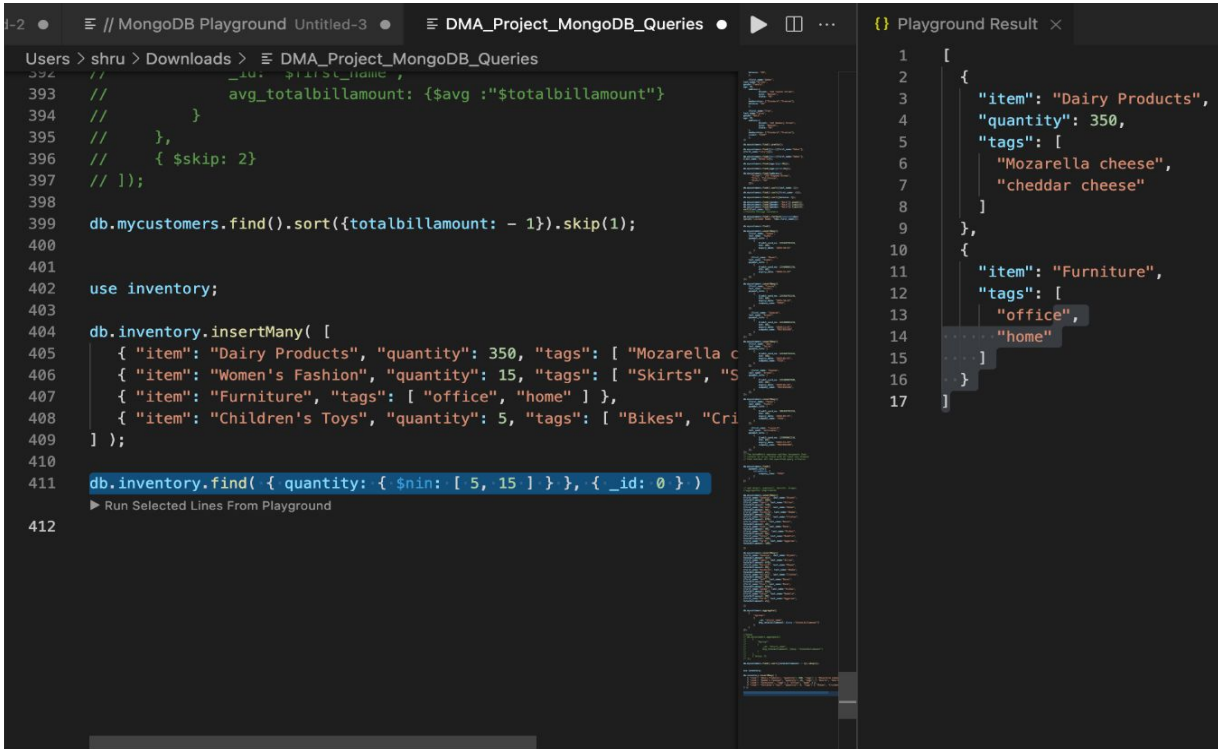
Iterate the list of all customer first names using forEach

NoSQL Query-3

Retrieve the second highest customer spender



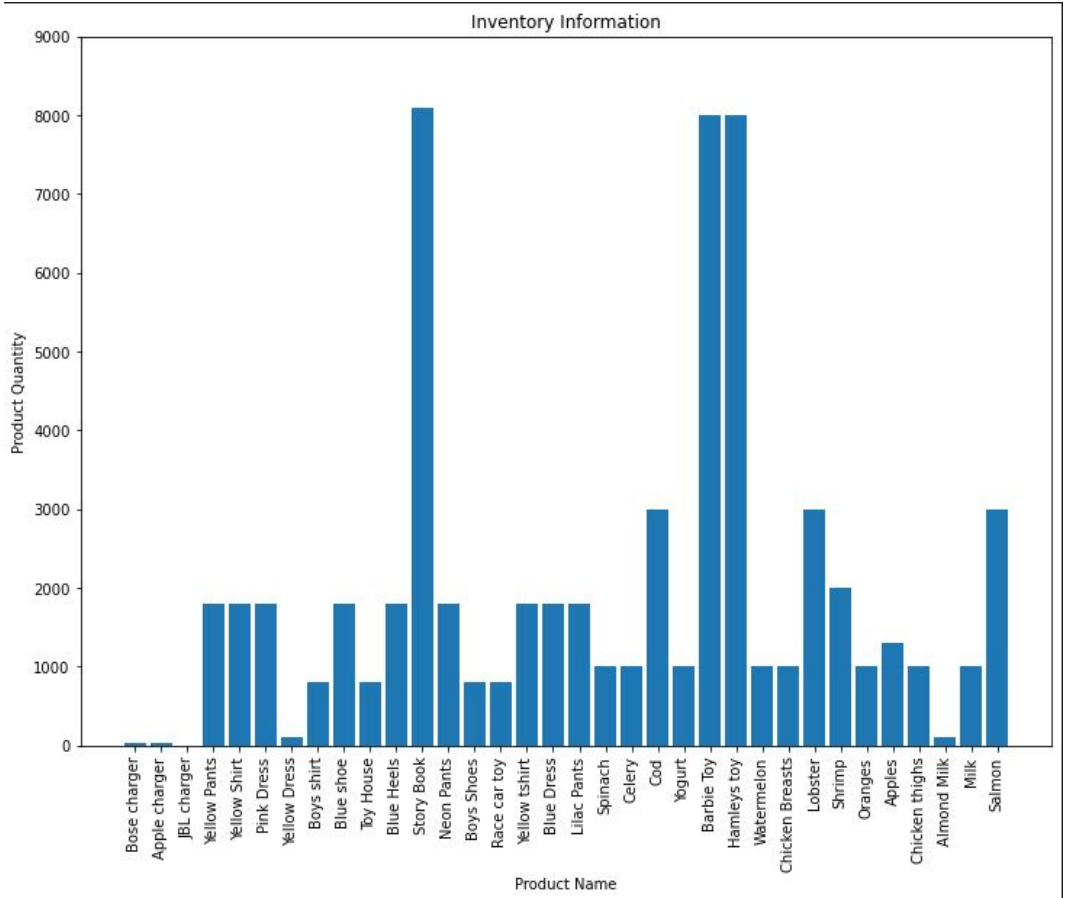
NoSQL Query-4



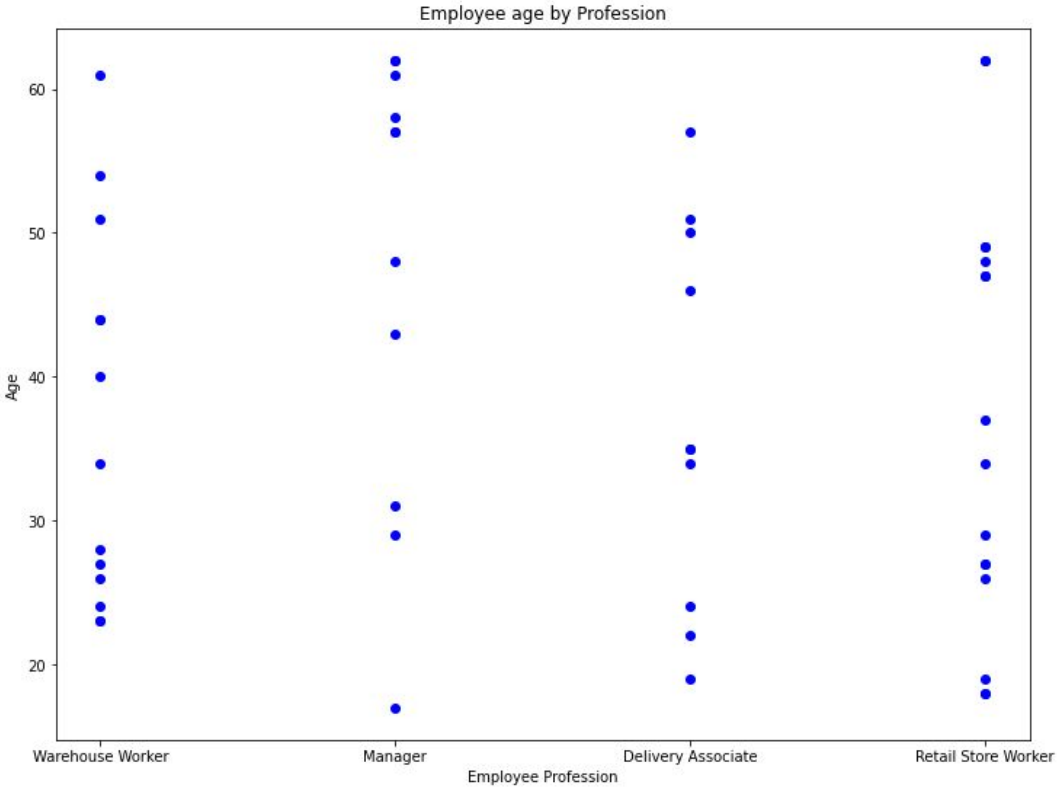
Retrieve the product details of products that are not below the threshold quantity.

Visualization-1

The quantity of the each product stored in the warehouse inventory



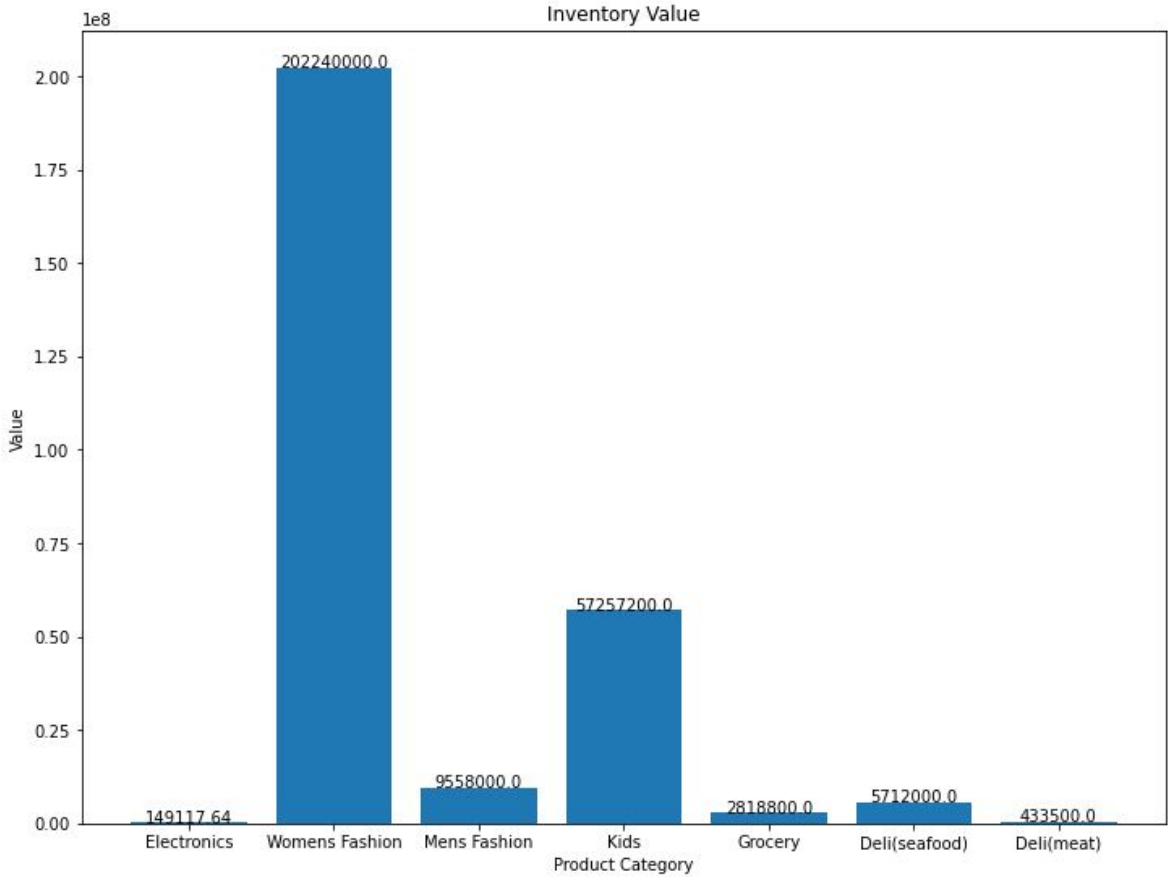
Visualization-2



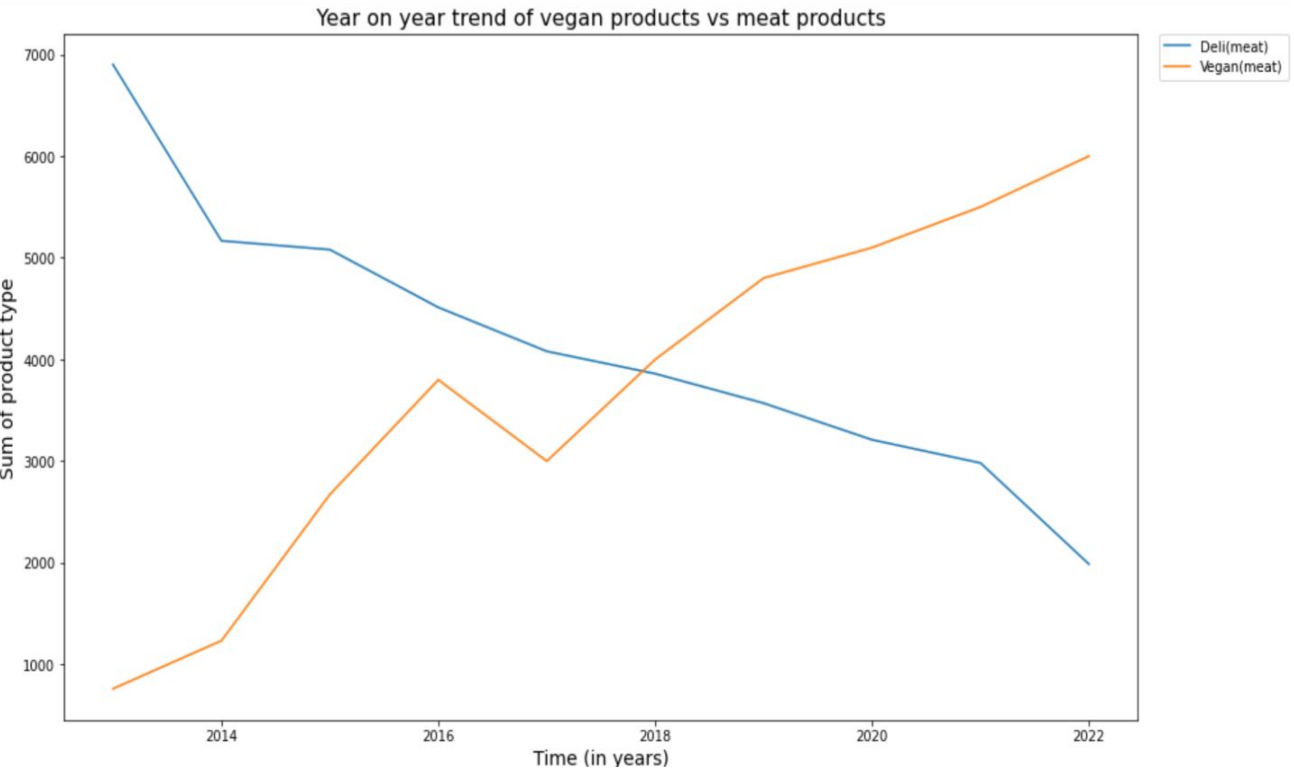
Scatter plot of the employee age distribution based on their profession/role

Visualization-3

The Inventory value for all categories of products in USD



Visualization-4



Year on year trend of vegan vs meat products

THANK YOU.