

Grocery Recommendation System

Members:

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Objective:

This project aims to assist users in buying groceries at the most affordable price or in the most convenient location possible, depending on their needs. The system will retrieve the desired product from the database and compare the pricing of the item from multiple retailers in accordance with the price stated. It also enables us to find the product details from the closest retailers based on the user's location. This system will also keep records of each employee of respective stores and these employees are allowed to add and update products for their specific store location.

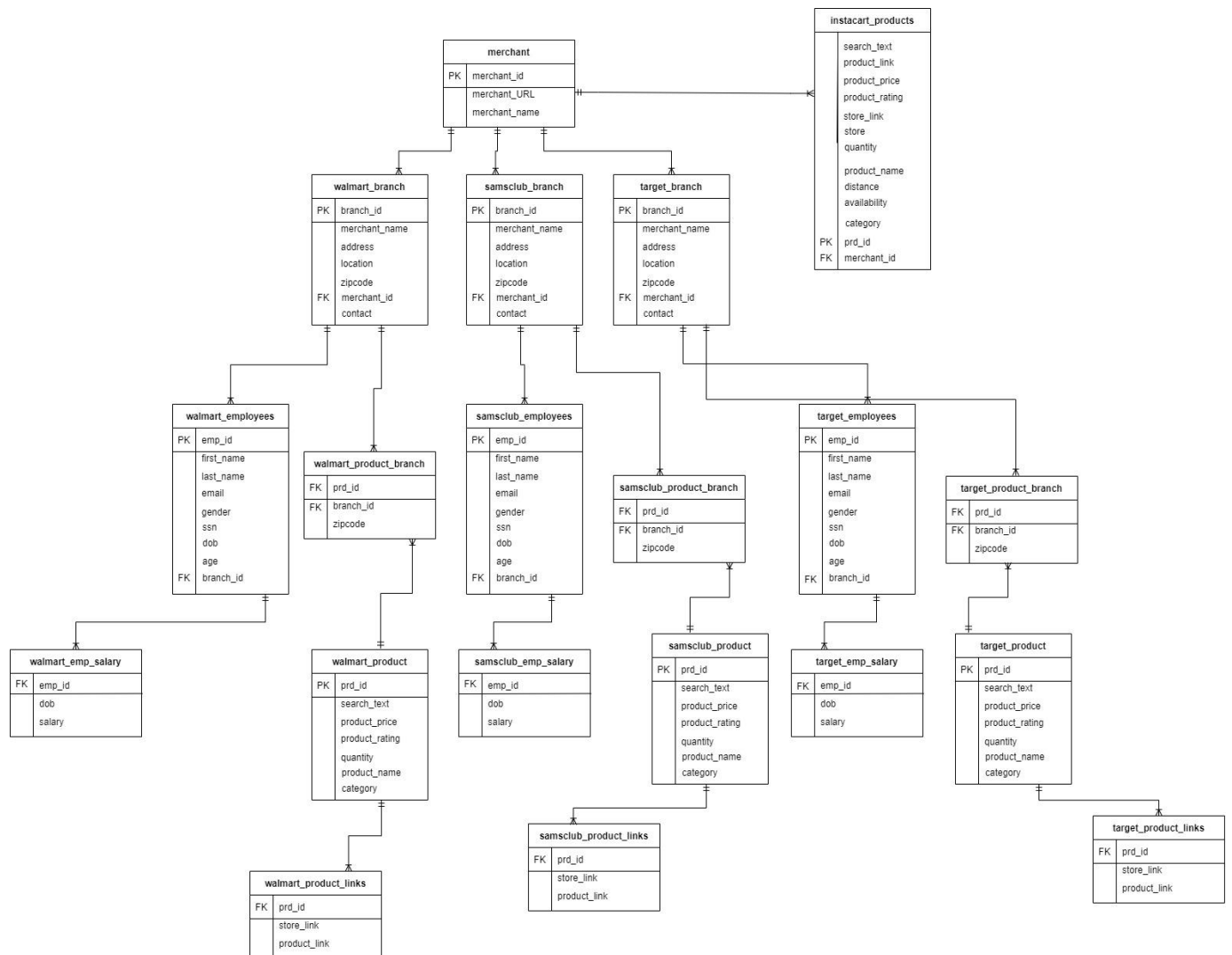
Description:

The Grocery_Recommendation_System database contains data on all the products available in merchants such as Walmart, Target, Samsclub, and the online delivery application Instacart. This data has been web scrapped from the **Google Shopping** web platform which includes millions of products from various merchants. The merchant table contains these merchant details along with their web URLs. The product tables contain columns such as product name, price, product inks, ratings, location in terms of zip code, etc. The Branch table data have been scrapped from the **Yellow Pages** website which contains the address and zip codes of all the merchant locations that are available in Boston City. The generated Employee tables contain dummy data concerning employee data such as employee id, first_name, last_name, and age for the selected merchants.

GIT HUB REPOSITORY LINK:

https://github.com/SraddhaP/Grocery_Recommendation_System

Entity Relation Diagram Of Grocery Recommendation System:



CREATE TABLE QUERIES:

1. Merchant Table

```
CREATE TABLE `merchant` ( `merchant_id` bigint NOT NULL AUTO_INCREMENT,  
`merchant_name` text, `merchant_URL` text );
```

2. Walmart Branch Table

```
CREATE TABLE `walmart_branch` ( `merchant_name` text, `address` text, `location` text,  
`zipcode` text, `contact` text, `branch_id` int NOT NULL AUTO_INCREMENT,  
`merchant_id` int DEFAULT NULL,  
PRIMARY KEY (`branch_id`),  
UNIQUE KEY `Branch_id` (`branch_id`));
```

3. Target Branch Table

```
CREATE TABLE `target_branch` ( `merchant_name` text, `address` text, `location` text,  
`zipcode` text, `contact` text, `branch_id` int NOT NULL AUTO_INCREMENT,  
`merchant_id` int DEFAULT NULL,  
PRIMARY KEY (`branch_id`),  
UNIQUE KEY `Branch_id` (`branch_id`));
```

4. Sam's Club Branch Table

```
CREATE TABLE `samsclub_branch` ( `merchant_name` text, `address` text, `location` text,  
`zipcode` text, `contact` text, `branch_id` int NOT NULL AUTO_INCREMENT,  
`merchant_id` int DEFAULT NULL,  
PRIMARY KEY (`branch_id`),  
UNIQUE KEY `Branch_id` (`branch_id`));
```

5. Walmart Employee Tables

```
CREATE TABLE `walmart_employees` ( `emp_id` bigint NOT NULL, `first_name` text,  
`last_name` text, `email` text, `gender` text, `ssn` bigint DEFAULT NULL, `age` bigint  
DEFAULT NULL, `branch_id` int DEFAULT NULL,  
PRIMARY KEY (`emp_id`),  
KEY `walmart_emp_fk1` (`branch_id`),
```

```
CONSTRAINT `walmart_emp_fk1` FOREIGN KEY (`branch_id`) REFERENCES  
`walmart_branch` (`branch_id`));
```

6. Target Employee Tables

```
CREATE TABLE `target_employees` ( `emp_id` bigint NOT NULL, `first_name` text,  
`last_name` text, `email` text, `gender` text, `ssn` bigint DEFAULT NULL, `dob` text, `age`  
bigint DEFAULT NULL, `branch_id` int DEFAULT NULL,  
PRIMARY KEY (`emp_id`),  
KEY `target_emp_fk1` (`branch_id`),  
CONSTRAINT `target_emp_fk1` FOREIGN KEY (`branch_id`) REFERENCES `target_branch`  
(`branch_id`));
```

7. Sam's Club Employee Tables

```
CREATE TABLE `samsclub_employees` ( `emp_id` bigint NOT NULL, `first_name` text,  
`last_name` text, `email` text, `gender` text, `ssn` bigint DEFAULT NULL, `Age` bigint  
DEFAULT NULL, `branch_id` int DEFAULT NULL, PRIMARY KEY (`emp_id`),  
KEY `samsclub_emp_fk1` (`branch_id`),  
CONSTRAINT `samsclub_emp_fk1` FOREIGN KEY (`branch_id`) REFERENCES  
`samsclub_branch` (`branch_id`));
```

8. Walmart Employee Salary Table

```
CREATE TABLE `walmart_emp_salary` (`emp_id` bigint DEFAULT NULL, `salary` bigint  
DEFAULT NULL,  
KEY `walmart_emp_salary_fk1` (`emp_id`),  
CONSTRAINT `walmart_emp_salary_fk1` FOREIGN KEY (`emp_id`) REFERENCES  
`walmart_employees` (`emp_id`));
```

9. Target Employee Salary Table

```
CREATE TABLE `target_emp_salary` ( `emp_id` bigint DEFAULT NULL, `salary` bigint  
DEFAULT NULL,  
KEY `target_emp_salary_fk1` (`emp_id`),  
CONSTRAINT `target_emp_salary_fk1` FOREIGN KEY (`emp_id`) REFERENCES  
`target_employees` (`emp_id`));
```

10.Sam's Club Employee Salary Table

```
CREATE TABLE `samsclub_emp_salary` ( `emp_id` bigint DEFAULT NULL, `salary` bigint  
DEFAULT NULL,
```

```

KEY `samsclub_emp_salary_fk1` (`emp_id`),
CONSTRAINT `samsclub_emp_salary_fk1` FOREIGN KEY (`emp_id`) REFERENCES
`samsclub_employees` (`emp_id`));

```

11. Walmart Product Table

```

CREATE TABLE `walmart_product` ( `search_text` text, `product_price` double DEFAULT
NULL, `product_rating` double DEFAULT NULL, `quantity` text, `product_name` text,
`category` text, `prd_id` bigint NOT NULL DEFAULT '0',
PRIMARY KEY (`prd_id`));

```

12. Target Product Table

```

CREATE TABLE `target_product` ( `search_text` text, `product_price` double DEFAULT
NULL, `product_rating` double DEFAULT NULL, `quantity` text, `product_name` text,
`category` text, `prd_id` bigint NOT NULL DEFAULT '0',
PRIMARY KEY (`prd_id`));

```

13. Sam's Club Product Table

```

CREATE TABLE `samsclub_product` ( `search_text` text, `product_price` double DEFAULT
NULL, `product_rating` double DEFAULT NULL, `quantity` text, `product_name`
text, `category` text, `prd_id` bigint NOT NULL DEFAULT '0',
PRIMARY KEY (`prd_id`));

```

14. Instacart Product Table

```

CREATE TABLE `instacart_products` ( `search_text` text, `product_link` text,
`product_price` double DEFAULT NULL, `product_rating` double DEFAULT NULL, `store`
text, `store_link` text, `quantity` text, `product_name` text,
`distance` double DEFAULT NULL, `availability` text, `category` text,
`prd_id` bigint NOT NULL AUTO_INCREMENT, `merchant_id` int NOT NULL,
PRIMARY KEY (`prd_id`),
UNIQUE KEY `Prd_id` (`prd_id`),
KEY `instacart_products_fk1` (`merchant_id`),
CONSTRAINT `instacart_products_fk1` FOREIGN KEY (`merchant_id`) REFERENCES
`merchant` (`merchant_id`)
);

```

15. Walmart Product Branch Relation Table

```
CREATE TABLE `walmart_product_branch` ( `zipcode` bigint DEFAULT NULL,  
  `branch_id` int DEFAULT NULL, `prd_id` bigint NOT NULL DEFAULT '0',  
  KEY `walmart_product_branch_fk1` (`branch_id`),  
  KEY `walmart_product_branch_fk2` (`prd_id`),  
  CONSTRAINT `walmart_product_branch_fk1` FOREIGN KEY (`branch_id`) REFERENCES  
  `walmart_branch` (`branch_id`),  
  CONSTRAINT `walmart_product_branch_fk2` FOREIGN KEY (`prd_id`) REFERENCES  
  `walmart_product` (`prd_id`)  
);
```

16. Target Product Branch Relation Table

```
CREATE TABLE `target_product_branch` ( `zipcode` bigint DEFAULT NULL,  
  `branch_id` int DEFAULT NULL, `prd_id` bigint NOT NULL DEFAULT '0',  
  KEY `target_product_branch_fk1` (`branch_id`),  
  KEY `target_product_branch_fk2` (`prd_id`),  
  CONSTRAINT `target_product_branch_fk1` FOREIGN KEY (`branch_id`) REFERENCES  
  `target_branch` (`branch_id`),  
  CONSTRAINT `target_product_branch_fk2` FOREIGN KEY (`prd_id`) REFERENCES  
  `target_product` (`prd_id`)  
);
```

17. Sam's Club Product Branch Relation Table

```
CREATE TABLE `samsclub_product_branch` (`zipcode` bigint DEFAULT NULL,  
  `branch_id` int DEFAULT NULL, `prd_id` bigint NOT NULL DEFAULT '0',  
  KEY `samsclub_product_branch_fk1` (`branch_id`),  
  KEY `samsclub_product_branch_fk2` (`prd_id`),  
  CONSTRAINT `samsclub_product_branch_fk1` FOREIGN KEY (`branch_id`) REFERENCES  
  `samsclub_branch` (`branch_id`),  
  CONSTRAINT `samsclub_product_branch_fk2` FOREIGN KEY (`prd_id`) REFERENCES  
  `samsclub_product` (`prd_id`)  
);
```

18. Walmart Product Link Table

```
CREATE TABLE `walmart_product_links` (`store_link` text, `prd_id` bigint NOT NULL  
  DEFAULT '0', `product_link` text,
```

```

KEY `walmart_product_links_fk1` (`prd_id`),
  CONSTRAINT `walmart_product_links_fk1` FOREIGN KEY (`prd_id`) REFERENCES
`walmart_product` (`prd_id`)
);

```

19. Target Product Link Table

```

CREATE TABLE `target_product_links` (`store_link` text,
  `prd_id` bigint NOT NULL DEFAULT '0',
  `product_link` text,
  KEY `target_product_links_fk1` (`prd_id`),
  CONSTRAINT `target_product_links_fk1` FOREIGN KEY (`prd_id`) REFERENCES
`target_product` (`prd_id`)) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4
COLLATE=utf8mb4_0900_ai_ci;

```

20. Sam's Club Product Link Table

```

CREATE TABLE `samsclub_product_links` (`store_link` text,
  `prd_id` bigint NOT NULL DEFAULT '0', `product_link` text,
  KEY `samsclub_product_links_fk1` (`prd_id`),
  CONSTRAINT `samsclub_product_links_fk1` FOREIGN KEY (`prd_id`) REFERENCES
`samsclub_product` (`prd_id`));

```

CONSTRAINT QUERIES:

1. ADDING CONSTRAINTS TO MERCHANT BRANCH TABLE

```
ALTER TABLE walmart_branch  
ADD CONSTRAINT `walmart_branch_fk1`  
FOREIGN KEY (merchant_id) REFERENCES merchant(merchant_id);
```

```
ALTER TABLE target_branch  
ADD CONSTRAINT `target_branch_fk1`  
FOREIGN KEY (merchant_id) REFERENCES merchant(merchant_id);
```

```
ALTER TABLE samsclub_branch  
ADD CONSTRAINT `samsclub_branch_fk1`  
FOREIGN KEY (merchant_id) REFERENCES merchant(merchant_id);
```

```
ALTER TABLE instacart_products  
ADD CONSTRAINT `instacart_products_fk1`  
FOREIGN KEY (merchant_id) REFERENCES merchant(merchant_id);
```

2. ADDING CONSTRAINTS FOR MERCHANT EMPLOYEE TABLES

```
ALTER TABLE walmart_employees  
MODIFY COLUMN branch_id INT;
```

```
ALTER TABLE target_employees  
MODIFY COLUMN branch_id INT;
```

```
ALTER TABLE samsclub_employees  
MODIFY COLUMN branch_id INT;
```

```
ALTER TABLE walmart_employees  
ADD CONSTRAINT PRIMARY KEY (emp_id),  
ADD CONSTRAINT `walmart_emp_fk1`  
FOREIGN KEY (branch_id) REFERENCES walmart_branch(branch_id);
```

```
ALTER TABLE target_employees  
ADD CONSTRAINT PRIMARY KEY (emp_id),
```



```
ADD CONSTRAINT `target_emp_fk1`  
FOREIGN KEY (branch_id) REFERENCES target_branch(branch_id);
```

```
ALTER TABLE samsclub_employees  
ADD CONSTRAINT PRIMARY KEY (emp_id),  
ADD CONSTRAINT `samsclub_emp_fk1`  
FOREIGN KEY (branch_id) REFERENCES samsclub_branch(branch_id);
```

3. ADDING CONSTRAINTS FOR NORMALISED TABLES

```
ALTER TABLE walmart_product_branch  
ADD CONSTRAINT `walmart_product_branch_fk1`  
FOREIGN KEY (branch_id) REFERENCES walmart_branch(branch_id);
```

```
ALTER TABLE target_product_branch  
ADD CONSTRAINT `target_product_branch_fk1`  
FOREIGN KEY (branch_id) REFERENCES target_branch(branch_id);
```

```
ALTER TABLE samsclub_product_branch  
ADD CONSTRAINT `samsclub_product_branch_fk1`  
FOREIGN KEY (branch_id) REFERENCES samsclub_branch(branch_id);
```

```
ALTER TABLE walmart_product_branch  
ADD CONSTRAINT `walmart_product_branch_fk2`  
FOREIGN KEY (prd_id) REFERENCES walmart_product(prd_id);
```

```
ALTER TABLE target_product_branch  
ADD CONSTRAINT `target_product_branch_fk2`  
FOREIGN KEY (prd_id) REFERENCES target_product(prd_id);
```

```
ALTER TABLE samsclub_product_branch  
ADD CONSTRAINT `samsclub_product_branch_fk2`  
FOREIGN KEY (prd_id) REFERENCES samsclub_product(prd_id);
```

```
ALTER TABLE walmart_product_links  
ADD CONSTRAINT `walmart_product_links_fk1`  
FOREIGN KEY (prd_id) REFERENCES walmart_product(prd_id);
```

```
ALTER TABLE target_product_links  
ADD CONSTRAINT `target_product_links_fk1`  
FOREIGN KEY (prd_id) REFERENCES target_product(prd_id);
```

```
ALTER TABLE samsclub_product_links  
ADD CONSTRAINT `samsclub_product_links_fk1`  
FOREIGN KEY (prd_id) REFERENCES samsclub_product(prd_id);
```

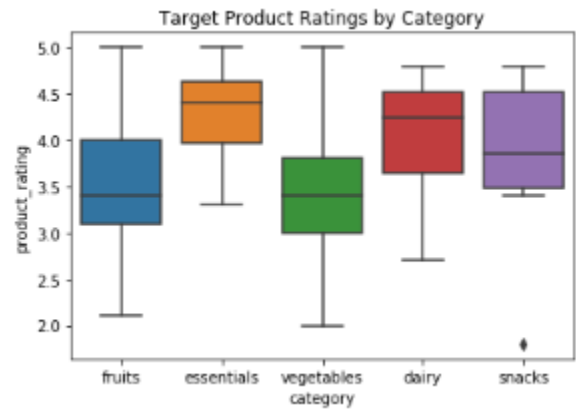
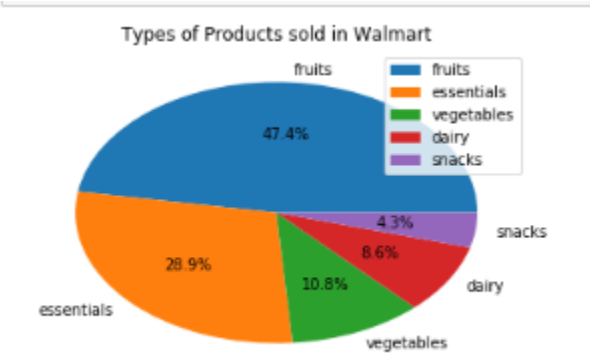
4. ADDING CONSTRAINTS FOR EMPLOYEE SALARY TABLES

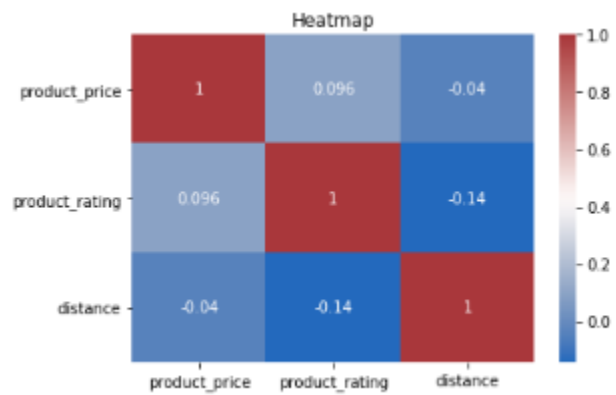
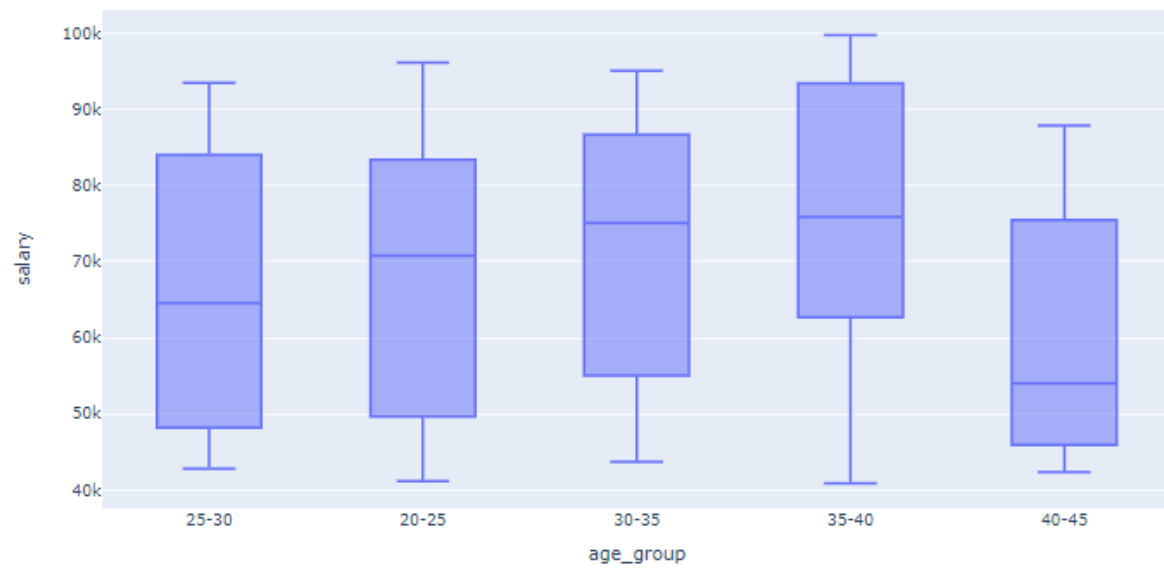
```
ALTER TABLE samsclub_emp_salary  
ADD CONSTRAINT `samsclub_emp_salary_fk1`  
FOREIGN KEY (emp_id) REFERENCES samsclub_employees(emp_id);
```

```
ALTER TABLE target_emp_salary  
ADD CONSTRAINT `target_emp_salary_fk1`  
FOREIGN KEY (emp_id) REFERENCES target_employees(emp_id);
```

```
ALTER TABLE walmart_emp_salary  
ADD CONSTRAINT `walmart_emp_salary_fk1`  
FOREIGN KEY (emp_id) REFERENCES walmart_employees(emp_id);
```

SCREEN SHOTS OF DATA VISUALIZATION:





SNAP SHOTS OF TABLES FROM MYSQL WORKBENCH

1. Walmart_Product Table

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

Navigator

Filter objects

SCHEMAS

- samsclub_product
- samsclub_products_df
- target_branch
- target_emp_salary
- target_employees
- target_product_links
- target_product_branch
- target_products_df
- walmart_branch
- walmart_emp_salary
- walmart_employees
- walmart_product
- walmart_product_branch
- walmart_product_links
- walmart_products_df

Views

Stored Procedures

Functions

Administration Schemas

Information

Table: **walmart_product**

Columns:

- search_text text
- product_price double
- product_rating double
- quantity text
- product_name text
- category text
- prd_id bigint(20) PK

Object Info Session

Limit to 10 rows

1 • SELECT * FROM grocery_recommendation_system.walmart_product;

Result Grid

search_text	product_price	product_rating	quantity	product_name	category	prd_id
mango	1.08	1.8	1 Each	Mango	fruits	1
mango	5.58	1.3	16 oz	Freshness Guaranteed Mango Spears 16 oz	fruits	2
mango	1.68	4.3	1 Each	Minute Maid Mango Punch - 59 fl oz	fruits	3
Oranges	7.88	1.6	5 lb	Navel Oranges	fruits	4
Oranges	5.97	1.4	3 lb	Marketside Organic Oranges	fruits	5
Oranges	3.98	1.4	3lb	Fresh Produce Clementines	fruits	6
Oranges	4.98	1.6	00 lbs	Seald Sweet Fresh Navel Oranges - 3.00 lbs	fruits	7
Oranges	1.34	4.1	15 oz	Great Value Mandarin Oranges - 15 oz canister	fruits	8
Apple fruit	5.78	2	3 lb	Granny Smith Apples	fruits	9
Apple fruit	6.37	2.1	5 lb	Red Delicious Apples	fruits	10

Output

Action Output

#	Time	Action	Message	Duration / Fetch
40	20:17:40	ALTER TABLE walmart_emp_salary ADD CONSTRAINT 'walmart_emp_salary_fk1' ...	100 row(s) affected Records: 100 Duplicates: 0 Warnings: 0	1.797 sec
41	20:19:22	SELECT * FROM grocery_recommendation_system.walmart_product LIMIT 0, 10	10 row(s) returned	0.032 sec / 0.000 sec

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

2. Walmart_Product_Branch Relation Table

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

Navigator

Filter objects

SCHEMAS

- samsclub_product
- samsclub_products_df
- target_branch
- target_emp_salary
- target_employees
- target_product_links
- target_product_branch
- target_product
- target_products_df
- walmart_branch
- walmart_emp_salary
- walmart_employees
- walmart_product
- walmart_product_branch
- walmart_product_links
- walmart_products_df
- Views
- Stored Procedures
- Functions
- Administration
- Schemas

Information

Table: **walmart_product_branch**

Columns:

- zipcode text
- branch_id int(11)
- prd_id bigint(20)

Object Info Session

valmart_product_location valmart_product_links Grocery_Recommendation_Syst... valmart_product valmart_product valmart_prodi

Limit to 10 rows

1 • SELECT * FROM grocery_recommendation_system.walmart_product_branch;

Result Grid

zipcode	branch_id	prd_id
0	0	1
02322	0	2
02322	0	3
02322	0	4
02019	0	5
02019	0	6
01906	0	7
02767	0	8
02322	0	9
02322	0	10

duct_branch 1 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
41	20:19:22	SELECT * FROM grocery_recommendation_system.walmart_product LIMIT 0, 10	10 row(s) returned	0.032 sec / 0.000 sec
42	20:20:12	SELECT * FROM grocery_recommendation_system.walmart_product_branch LIMIT 0, 10	10 row(s) returned	0.016 sec / 0.000 sec

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

3. Walmart_Product_Links Table

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

Navigator

Filter objects

SCHEMAS

- samsclub_product
- samsclub_products_df
- target_branch
- target_emp_salary
- target_employees
- target_product_links
- target_product_branch
- target_product
- target_products_df
- walmart_branch
- walmart_emp_salary
- walmart_employees
- walmart_product
- walmart_product_branch
- walmart_product_links
- walmart_products_df
- Views
- Stored Procedures
- Functions
- Administration
- Schemas

Information

Table: **walmart_product_links**

Columns:

- store_link text
- prd_id bigint(20)
- product_link text

Object Info Session

valmart_product_links Grocery_Recommendation_Syst... valmart_product valmart_product valmart_product_branch valmart_prodi

Limit to 10 rows

1 • SELECT * FROM grocery_recommendation_system.walmart_product_links;

Result Grid

store_link	prd_id	product_link
https://www.google.com/url?url=https://www...	1	https://www.google.com/shopping/product/110...
https://www.google.com/url?url=https://www...	2	https://www.google.com/shopping/product/502...
https://www.google.com/url?url=https://www...	3	https://www.google.com/shopping/product/110...
https://www.google.com/url?url=https://www...	4	https://www.google.com/shopping/product/110...
https://www.google.com/url?url=https://www...	5	https://www.google.com/shopping/product/826...
https://www.google.com/url?url=https://www...	6	https://www.google.com/shopping/product/954...
https://www.google.com/url?url=https://www...	7	https://www.google.com/shopping/product/100...
https://www.google.com/url?url=https://www...	8	https://www.google.com/shopping/product/167...
https://www.google.com/url?url=https://www...	9	https://www.google.com/shopping/product/742...
https://www.google.com/url?url=https://www...	10	https://www.google.com/shopping/product/522...

product_links 1 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
42	20:20:12	SELECT * FROM grocery_recommendation_system.walmart_product_branch LIMIT 0, 10	10 row(s) returned	0.016 sec / 0.000 sec
43	20:20:28	SELECT * FROM grocery_recommendation_system.walmart_product_links LIMIT 0, 10	10 row(s) returned	0.047 sec / 0.000 sec

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

4. Walmart_Employees Table

MySQL Workbench

Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

Filter objects

- samsclub_product
- samsclub_products_df
- target_branch
- target_emp_salary
- target_employees
- target_product_links
- target_product_branch
- target_product
- target_products_df
- walmart_branch
- walmart_emp_salary
- walmart_employees
- walmart_product
- walmart_product_branch
- walmart_product_links
- walmart_products_df

Views

Stored Procedures

Functions

Administration Schemas

Information

Table: **walmart_employees**

Columns:

- emp_id: bigint(20) PK
- first_name: text
- last_name: text
- email: text
- gender: text
- ssn: bigint(20)
- dob: text
- age: bigint(20)
- branch_id: int(11)

Object Info Session

Query Editor

1 • SELECT * FROM grocery_recommendation_system.walmart_employees;

Result Grid

emp_id	first_name	last_name	email	gender	ssn	dob	age	branch_id
1	Jourdain	Alenichev	jalenichev0@state.tx.us	Male	6855450695	11/9/96	26	1
2	Kerian	Vaskin	kvaskin1@behanee.net	Non-binary	8309673086	2/5/99	23	1
3	Russell	Rawe	rrawe2@uoz.ru	Male	869505912	7/11/99	23	1
4	Minnie	Pinchon	mpinchon3@wikimedia.org	Genderfluid	7069306431	18-04-1989	33	2
5	Franciskus	Geggus	fgeggus4@va.gov	Male	2430993694	16-05-1993	29	2
6	Papageno	Aurelius	paurelius5@elpais.com	Male	2238216200	22-11-1986	36	2
7	Lari	Daugherty	ldaugherty6@arizona.edu	Female	5827928534	1/9/83	39	1
8	Alvie	Eyden	aeyden7@xinhuanet.com	Male	8935791555	19-03-1997	25	1
9	Raynor	Mazin	rmazin8@networkadvertising.org	Agender	8310509162	22-01-1986	36	3
10	Danya	Nassi	dnassi9@toplist.cz	Male	6308058475	23-03-1999	23	2

Output

#	Time	Action	Message	Duration / Fetch
44	20:21:12	SELECT * FROM grocery_recommendation_system.walmart_products_df LIMIT 0, 10	10 row(s) returned	0.031 sec / 0.000 sec
45	20:21:29	SELECT * FROM grocery_recommendation_system.walmart_employees LIMIT 0, 10	10 row(s) returned	0.000 sec / 0.000 sec

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

5. Walmart_Employee_Salary Table

MySQL Workbench

Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

Filter objects

- samsclub_product
- samsclub_products_df
- target_branch
- target_emp_salary
- target_employees
- target_product_links
- target_product_branch
- target_product
- target_products_df
- walmart_branch
- walmart_emp_salary
- walmart_employees
- walmart_product
- walmart_product_branch
- walmart_product_links
- walmart_products_df

Views

Stored Procedures

Functions

Administration Schemas

Information

Table: **walmart_emp_salary**

Columns:

- emp_id: bigint(20)
- salary: bigint(20)
- dob: text

Object Info Session

Query Editor

1 • SELECT * FROM grocery_recommendation_system.walmart_emp_salary;

Result Grid

emp_id	salary	dob
1	92658	09-03-22
2	62985	22-11-22
3	87568	11-03-19
4	43749	24-01-22
5	44704	26-12-19
6	99754	31-12-18
7	58959	01-03-22
8	50786	27-08-22
9	40894	07-05-19
10	49146	15-11-22

Output

#	Time	Action	Message	Duration / Fetch
45	20:21:29	SELECT * FROM grocery_recommendation_system.walmart_employees LIMIT 0, 10	10 row(s) returned	0.000 sec / 0.000 sec
46	20:21:46	SELECT * FROM grocery_recommendation_system.walmart_emp_salary LIMIT 0, 10	10 row(s) returned	0.031 sec / 0.000 sec

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

6. Walmart_Branch Table

The screenshot shows the MySQL Workbench interface. On the left, the 'SCHEMAS' pane displays a tree view of databases, with 'grocery_recommendation_system' expanded to show the 'walmart_branch' table. The table's columns are listed: merchant_name (text), address (text), location (text), zipcode (text), contact (text), branch_id (int(11) AI PK), and merchant_id (int(11)). The main query editor shows a query: `SELECT * FROM grocery_recommendation_system.walmart_branch;`. The 'Result Grid' displays 6 rows of data for Walmart branches. The 'Output' pane at the bottom shows the execution log with two successful queries.

merchant_name	address	location	zipcode	contact	branch_id	merchant_id
Walmart	780 Lynnway	Lynn, MA	01905	(781) 592-4300	1	1
Walmart	440 Highland Ave	Malden, MA	02148	(978) 745-8290	2	1
Walmart	301 Falls Blvd	Quincy, MA	02169	(617) 745-4390	3	1
Walmart	450 Highland Ave	Salem, MA	01970	(978) 825-1713	4	1
Walmart	740 Middle St	Weymouth, MA	02188	(781) 331-0063	5	1
Walmart	55 Brooksby Village Way	Danvers, MA	01923	(978) 777-6977	6	1

Similarly we have tables for Sam's Club, Target and Instacart.

7. Merchant Table

The screenshot shows the MySQL Workbench interface. On the left, the 'SCHEMAS' pane displays a tree view of databases, with 'grocery_recommendation_system' expanded to show the 'merchant' table. The table's columns are listed: merchant_name (text), merchant_URL (text), and merchant_id (int(11) AI PK). The main query editor shows a query: `SELECT * FROM grocery_recommendation_system.merchant;`. The 'Result Grid' displays 4 rows of data for different merchants. The 'Output' pane at the bottom shows the execution log with two successful queries.

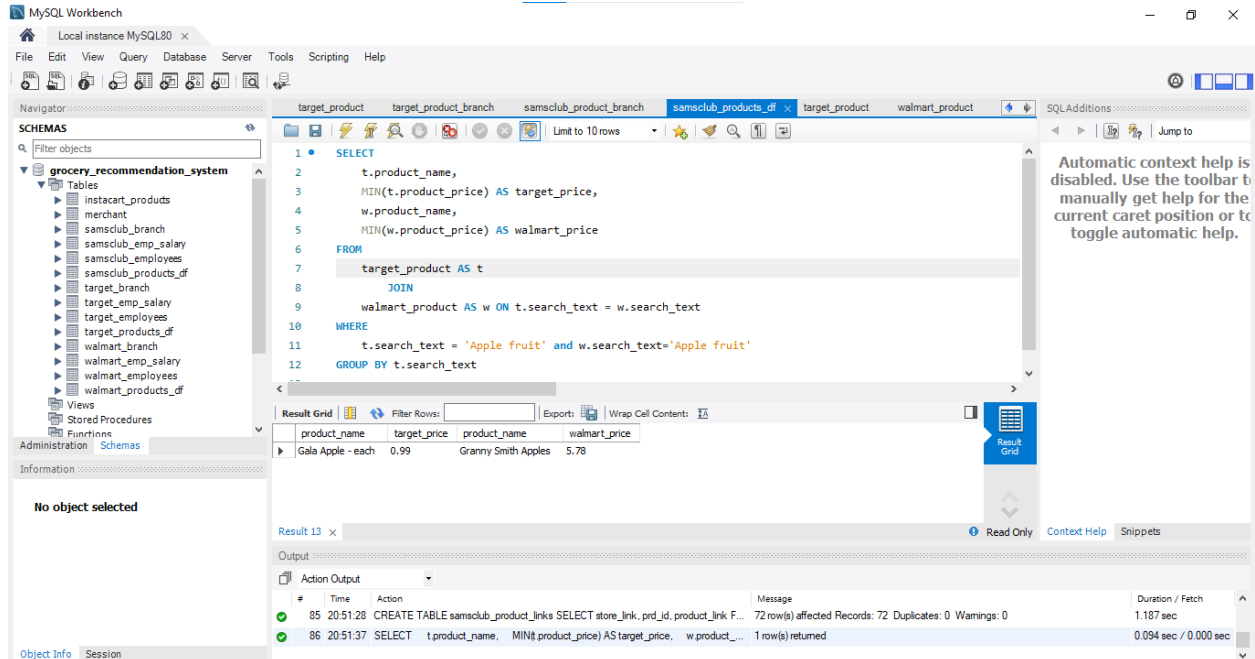
merchant_name	merchant_URL	merchant_id
Walmart	https://www.walmart.com/	1
Target	https://www.target.com/	2
Sam's Club	https://www.samsclub.com/	3
Instacart	https://www.instacart.com/store	4

USE CASES

1. As a customer, in which store can I get the cheapest Apples?

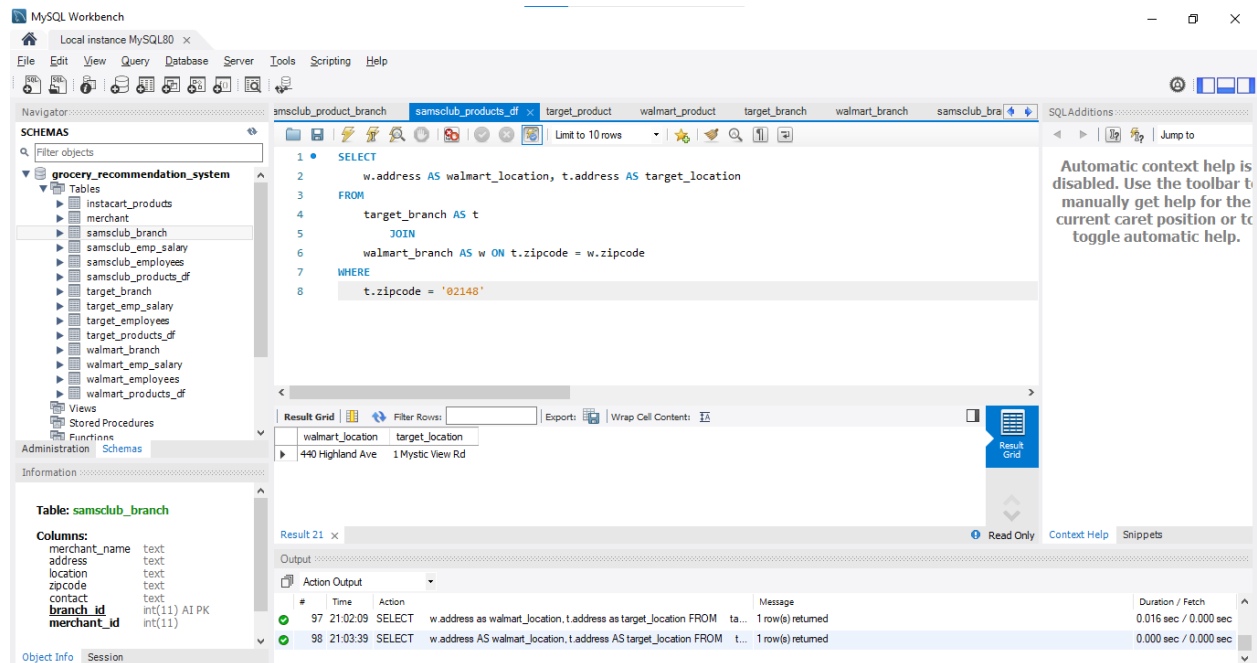
```
SELECT
    t.product_name,
    MIN(t.product_price) AS target_price,
    w.product_name,
    MIN(w.product_price) AS walmart_price
FROM
    target_product AS t
    JOIN
    walmart_product AS w ON t.search_text = w.search_text
WHERE
```

```
t.search_text = 'Apple fruit' and w.search_text='Apple fruit'
GROUP BY t.search_text;
```



2.Which stores are located in my zipcode (02148)

```
SELECT
  w.address AS walmart_location, t.address AS target_location
FROM
  target_branch AS t
  JOIN
  walmart_branch AS w ON t.zipcode = w.zipcode
WHERE
  t.zipcode = '02148';
```



3. As a customer can I know in which Target branch is Strawberry available ?

SELECT

a.search_text, a.product_name, b.zipcode

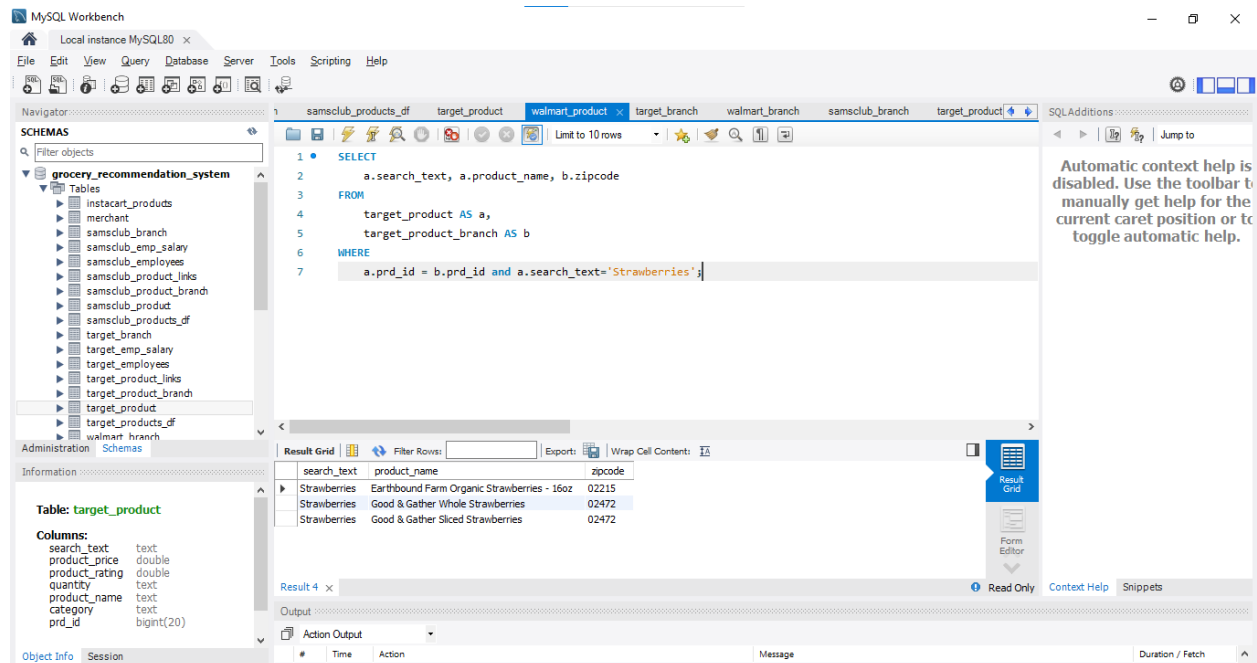
FROM

target_product AS a,

target_product_branch AS b

WHERE

a.prd_id = b.prd_id and a.search_text='Strawberries';



4. As Walmart employee can I see my personal details

SELECT

*

FROM

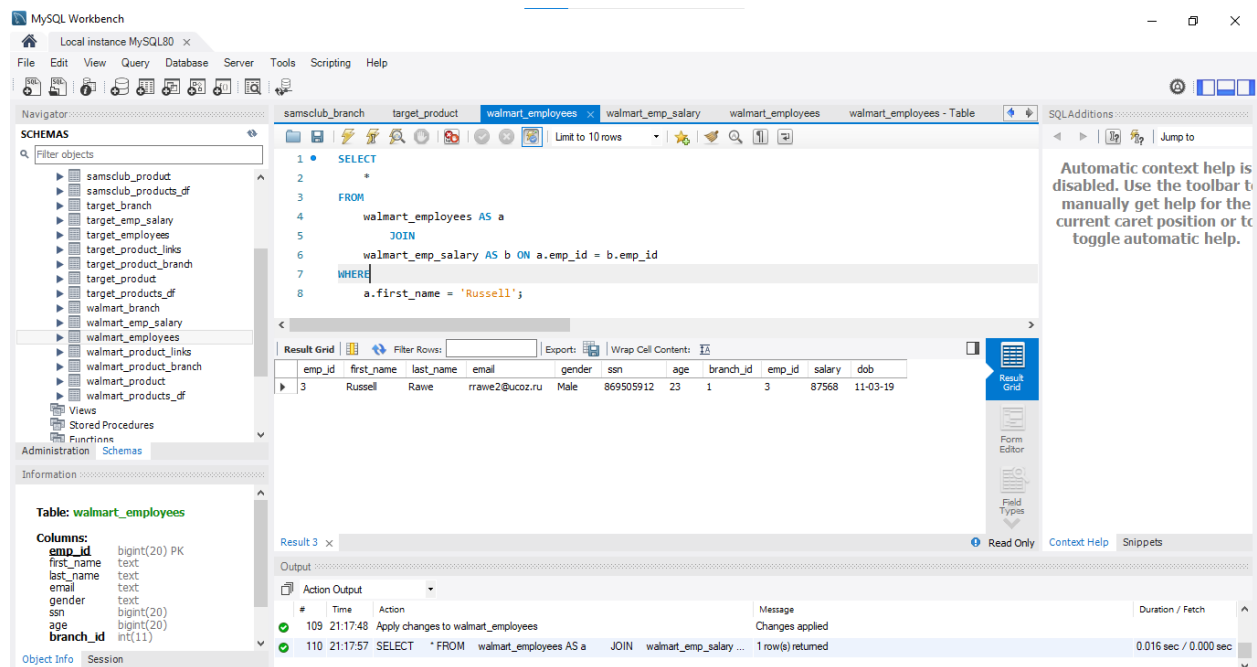
walmart_employees AS a

JOIN

walmart_emp_salary AS b ON a.emp_id = b.emp_id

WHERE

a.first_name = 'Russell';

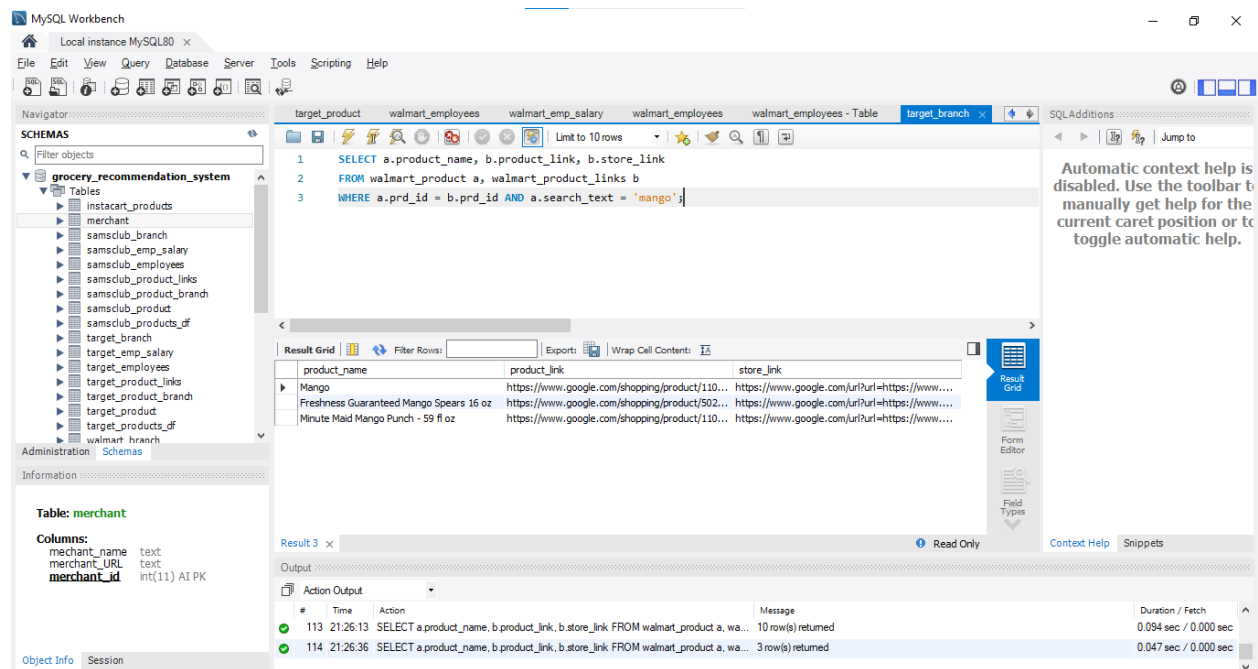


5. As a customer, I would like to know the links of Mangoes available in Walmart

```

SELECT
    a.product_name, b.product_link, b.store_link
FROM
    walmart_product a,
    walmart_product_links b
WHERE
    a.prd_id = b.prd_id
    AND a.search_text = 'mango';

```



6. As an Employee, I would like to know all the Walmart employees who work in Quincy

```

SELECT
    a.emp_id, a.first_name, a.email, b.address, b.location
FROM
    walmart_employees a,
    walmart_branch b
WHERE
    b.branch_id = a.branch_id
    AND b.branch_id = 3

```

AND a.branch_id = 3;

The screenshot shows the MySQL Workbench interface. The SQL editor contains the following query:

```
1 SELECT a.emp_id, a.first_name, a.email, b.address, b.location
2 FROM walmart_employees a, walmart_branch b
3 WHERE b.branch_id = a.branch_id and b.branch_id = 3 and a.branch_id = 3;
4
```

The Results tab displays the following data:

emp_id	first_name	email	address	location
9	Raynor	rmazin8@networkadvertising.org	301 Falls Blvd	Quincy, MA
12	Sheffield	sbraimb@loc.gov	301 Falls Blvd	Quincy, MA
21	Guglielmo	gharsesk@shinystat.com	301 Falls Blvd	Quincy, MA
26	Filip	ffoottp@state.gov	301 Falls Blvd	Quincy, MA
33	Gannon	gmaciejakov@usda.gov	301 Falls Blvd	Quincy, MA
46	Aindrea	akimmons19@tmyurl.com	301 Falls Blvd	Quincy, MA
52	Aurore	adicks1f@toplist.cz	301 Falls Blvd	Quincy, MA
54	Isadore	inassyth@ehow.com	301 Falls Blvd	Quincy, MA
61	Jeff	jholborn10@istockphoto.com	301 Falls Blvd	Quincy, MA
64	Austin	agutonneau1r@cidcbank.net	301 Falls Blvd	Quincy, MA

The bottom panel shows the Action Output with two successful queries:

#	Time	Action	Message	Duration / Fetch
119	21:34:05	SELECT a.emp_id, a.first_name, a.email, b.address FROM walmart_employees a, wa...	10 row(s) returned	0.000 sec / 0.000 sec
120	21:35:57	SELECT a.emp_id, a.first_name, a.email, b.address FROM walmart_empl...	10 row(s) returned	0.000 sec / 0.000 sec

7. As Samsclub manager, get top 10 youngest employees

SELECT

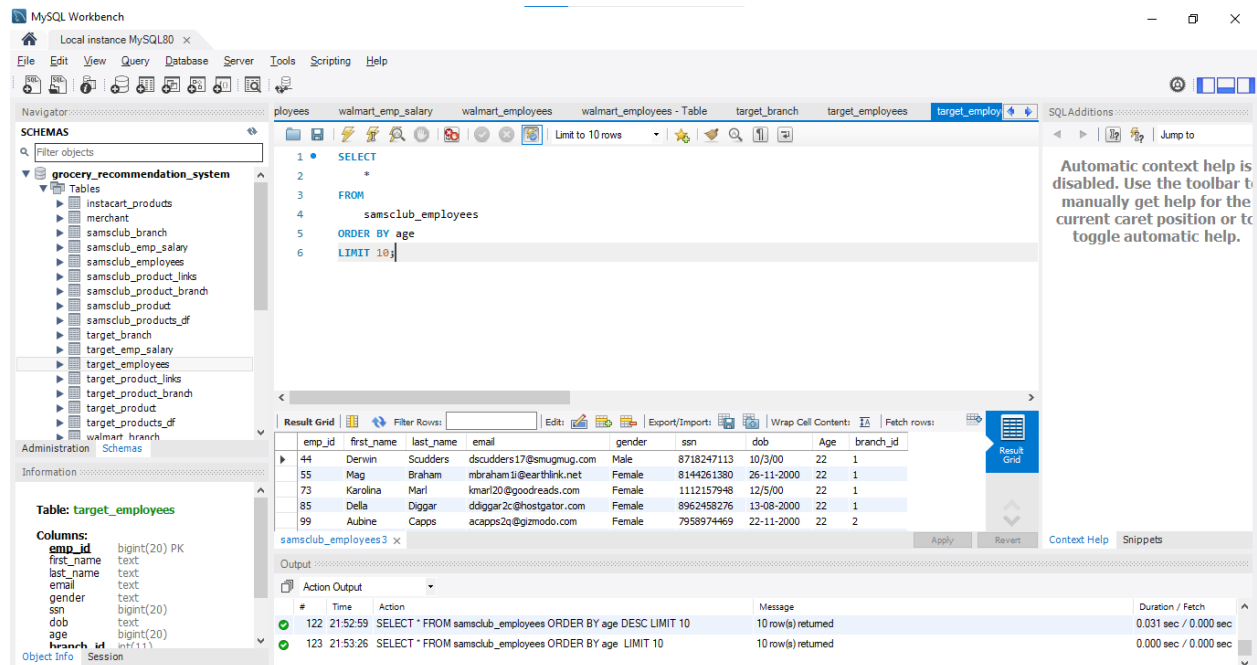
*

FROM

samsclub_employees

ORDER BY age

LIMIT 10;



8. Display the first name, age and salary of the walmart employees whose salary is in between \$40000 and \$60000

```
SELECT
    first_name, age, salary
FROM
    walmart_employees
```


inner join walmart_emp_salary on
walmart_employees.emp_id=walmart_emp_salary.emp_id
Where
salary between 40000 and 60000;

The screenshot shows a database management tool interface. The left pane displays a schema tree for 'grocery_recommendation_system'. The main pane shows a SQL query in a text editor:

```
1 SELECT first_name, age, salary
2 FROM walmart_employees
3 inner join walmart_emp_salary on walmart_employees.emp_id=walmart_emp_salary.emp_id
4 where salary between 40000 and 60000;
```

Below the query editor, the 'Result Grid' displays the following data:

first_name	salary	age
Christian	53264	23
Gardner	41105	32
Flory	43272	40
Eziechiele	85417	34
Trever	52111	30
Sherwynd	40251	30
Alix	87344	34
Clare	48365	38
Panchito	41916	27
Dynah	85185	23
Phyllys	61742	36
Hanny	99687	25

9. Increment the salaries of Sam's club employees by \$10000 whose age is 35 years or older

Select

first_name, salary, salary + '10000' as new_salary , age

from

Samsclub_employees

inner join samsclub_emp_salary on
samsclub_employees.emp_id=samsclub_emp_salary.emp_id

where

age >= 35;

The screenshot shows a database management tool interface. The left sidebar displays a tree view of schemas, with 'grocery_recommendation_syst...' expanded. The main window shows a SQL query in the 'walmart_emp_salary' tab:

```
1 select first_name, salary, salary + '10000' as new_salary , age
2 from samsclub_employees
3 inner join samsclub_emp_salary on samsclub_employees.emp_id=samsclub_emp_salary.emp_id
4 where age >= 35
```

Below the query, the 'Result Grid' displays the following data:

	first_name	salary	new_salary	age
▶	Flory	43272	53272	40
	Clare	48365	58365	38
	Phyllys	61742	71742	36
	Rosanna	90459	100459	35
	Lilian	60761	70761	39
	Nikolos	93983	103983	37
	Winfield	99984	109984	39
	Marita	63275	73275	36
	Maxy	80996	90996	39
	Wallache	53111	63111	39
	Kissie	69761	79761	36
	Kristyn	51709	61709	36

The bottom status bar indicates 'Result 9' and 'Read Only'.

10. Total number Sam's Club employees working in Plymouth, MA

SELECT

b.address, COUNT(a.emp_id) AS total_employees

FROM

samsclub_employees AS a,

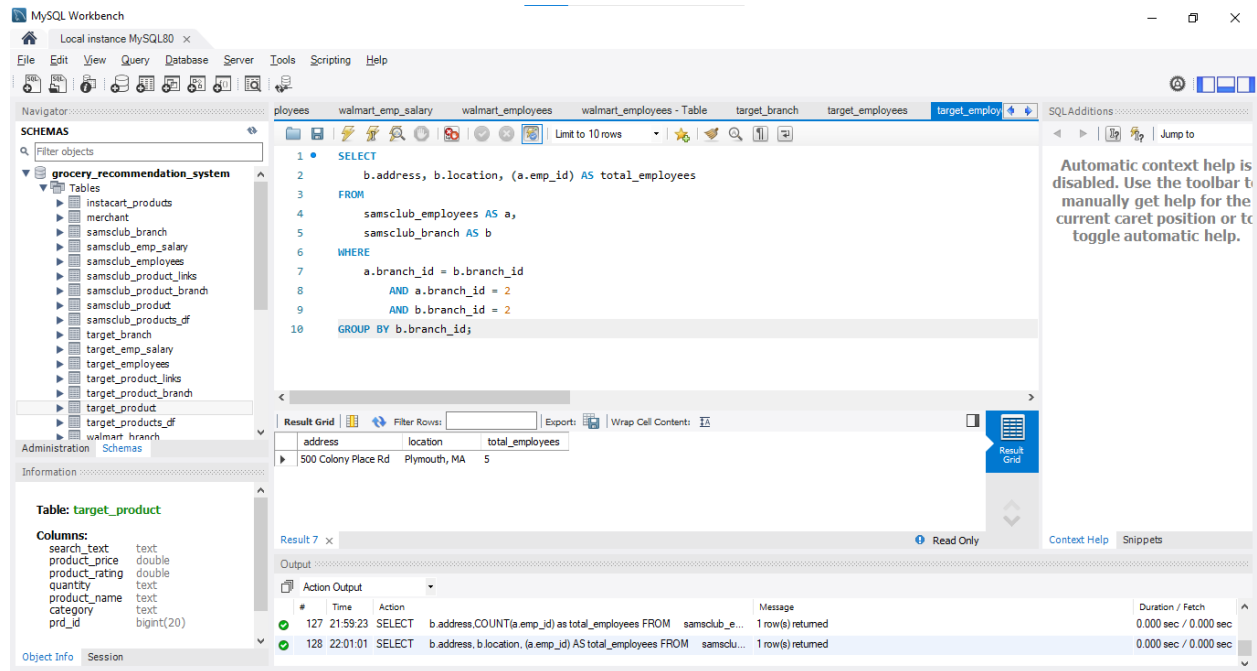
samsclub_branch AS b

WHERE

```

a.branch_id = b.branch_id
AND a.branch_id = 2
AND b.branch_id = 2
GROUP BY b.branch_id;

```



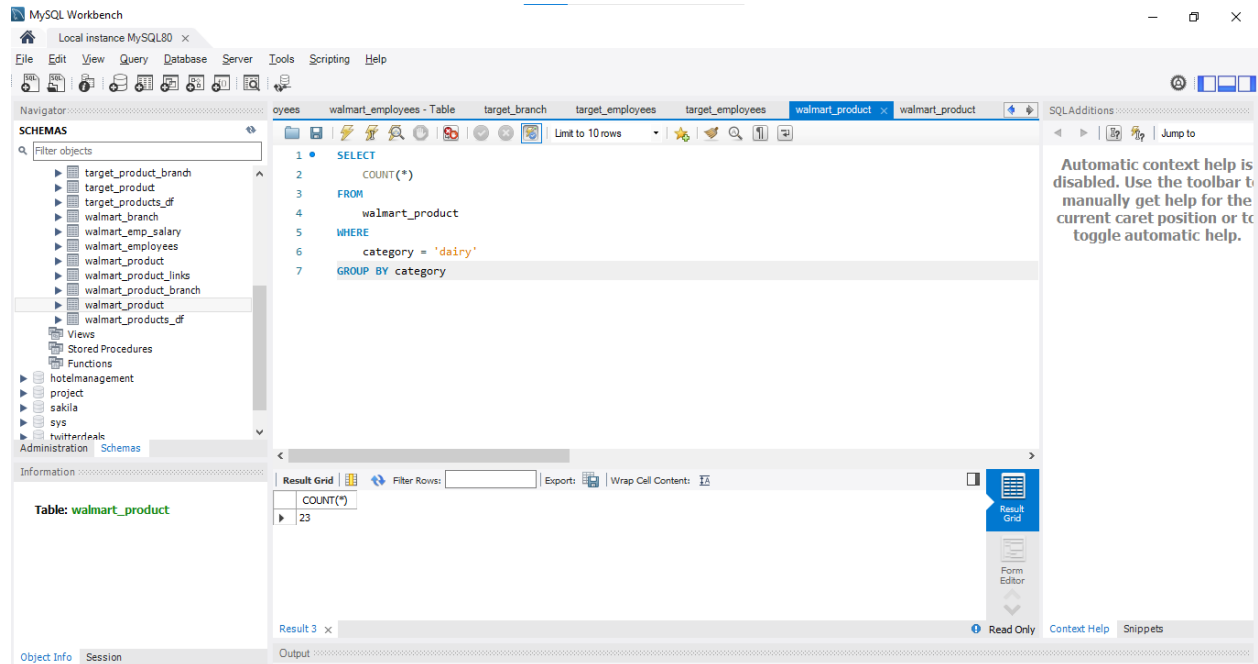
11. As a manager can I know total count of Dairy products available all over walmart

```

SELECT
  COUNT(*)
FROM
  walmart_product
WHERE

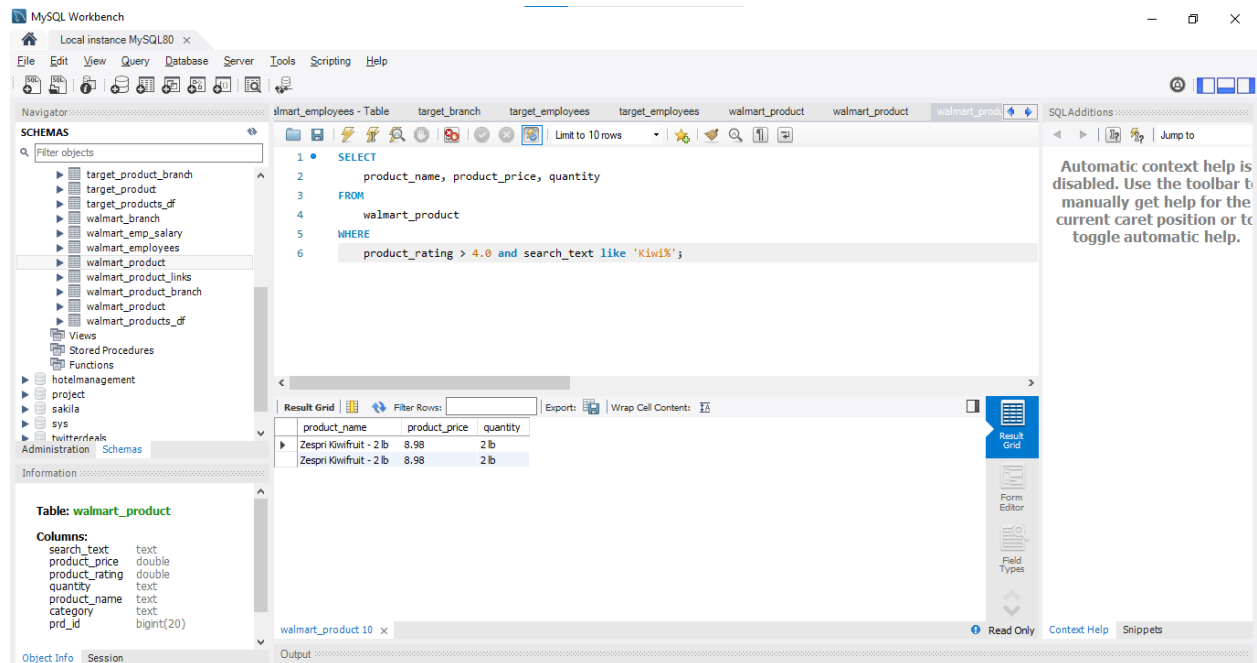
```

category = 'dairy'
GROUP BY category;



12. As a Walmart customer I would like to order Kiwi fruit having ratings more than 4.

```
SELECT
  product_name, product_price, quantity
FROM
  walmart_product
WHERE
  product_rating > 4.0 and search_text like 'Kiwi%';
```

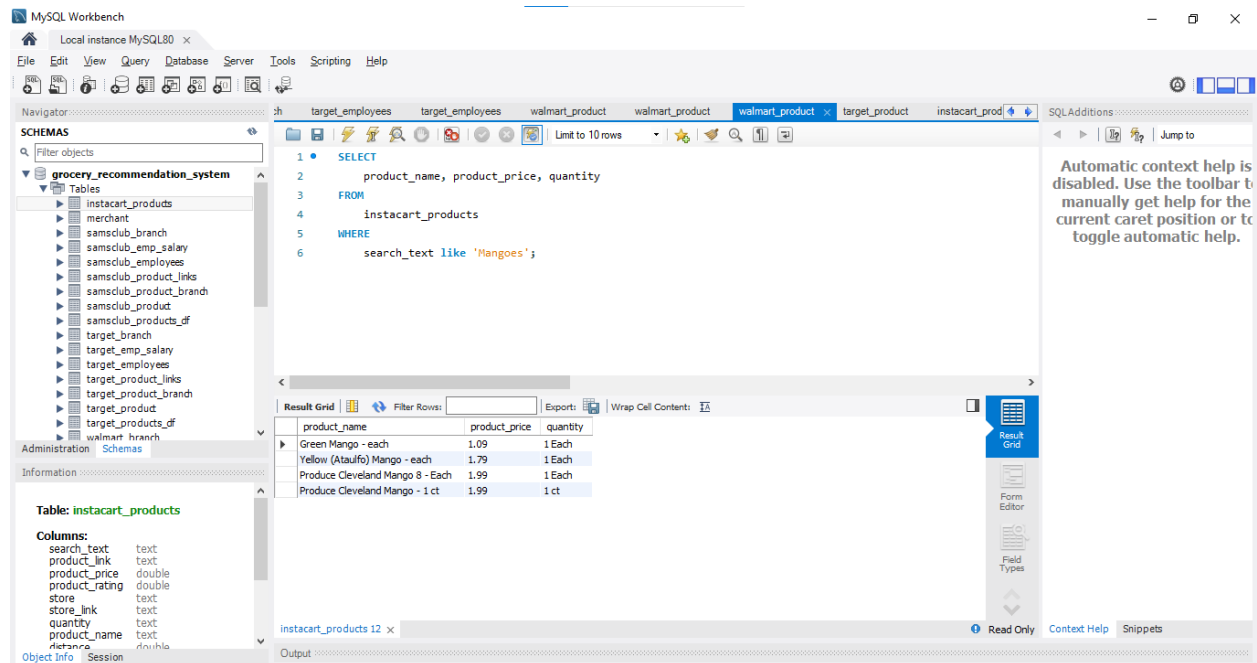


13. As a customer, can I know what varieties of mangoes that are available in Instacart?

```

SELECT
    product_name, product_price, quantity
FROM
    instacart_products
WHERE
    search_text like 'Mangoes';

```



14. View of Walmart employee table that is visible to only walmart manager

CREATE VIEW walmart_employee_details AS

SELECT

emp.emp_id, emp.first_name, emp.last_name, emp.age, emp.gender,
salary.salary

FROM

walmart_employees emp

JOIN

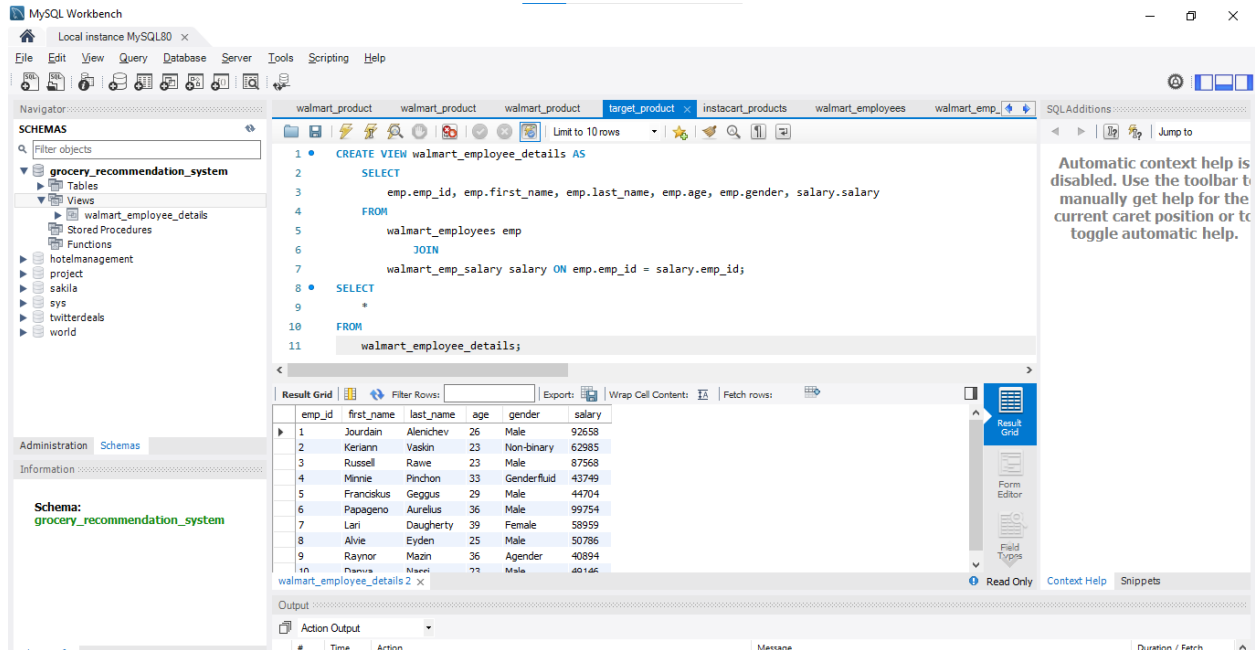
walmart_emp_salary salary ON emp.emp_id = salary.emp_id;

SELECT

*

FROM

Walmart_employee_details;



15. As a customer, can i know products under 2\$ which i can order from Instacart

SELECT

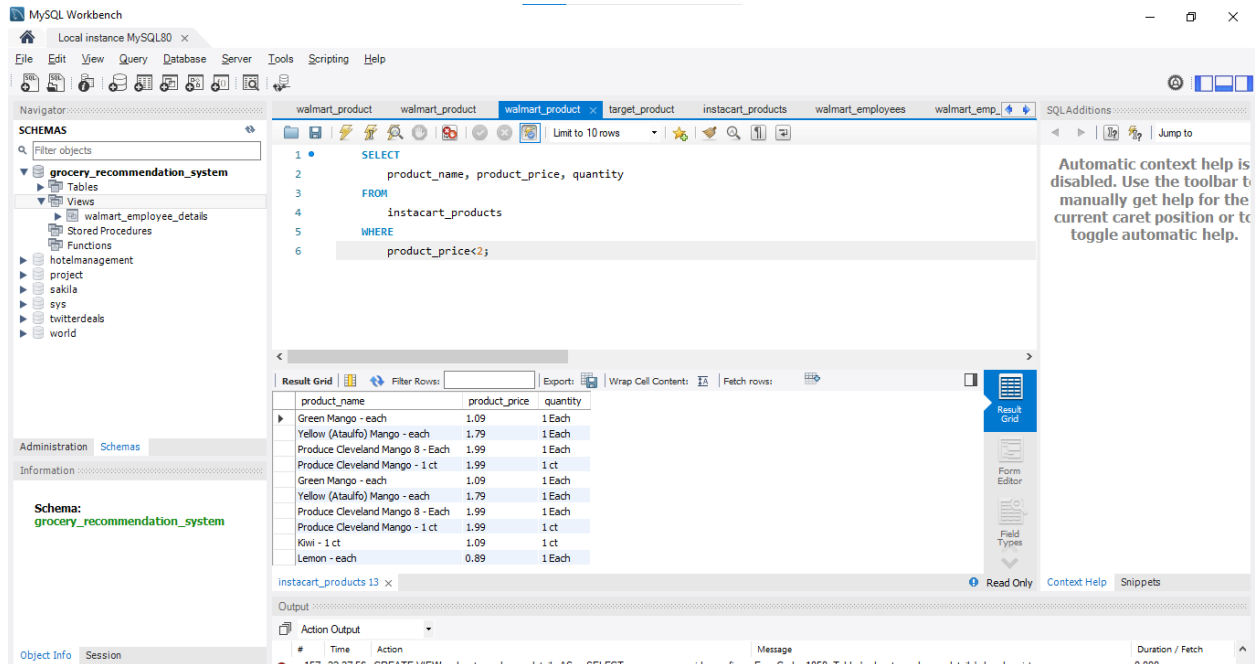
product_name, product_price, quantity

FROM

instacart_products

WHERE

product_price<2;



16. May I know products that are available for Pickup from Walmart

SELECT

*

FROM

walmart_product

WHERE

availabilty LIKE '%Curbside';

The screenshot shows a database management interface with a menu bar (File, Edit, View, Query, Database, Server, Tools, Scripting, Help) and a toolbar. The 'Navigator' pane on the left shows a tree view of schemas, with 'grocery_recommendation_system' expanded to show tables like 'instacart_products', 'merchant', 'samsclub_branch', 'samsclub_emp_salary', 'samsclub_employees', 'samsclub_products_df', 'target_branch', 'target_emp_salary', 'target_employees', 'target_products_df', 'walmart_branch', 'walmart_emp_salary', 'walmart_employees', and 'walmart_products_df'. The main query editor shows a SQL query:

```

1 SELECT
2 *
3 FROM
4 walmart_product
5 WHERE
6 availabilty LIKE '%Curbside';

```

The 'Result Grid' pane shows the results of the query, limited to 1000 rows. The results are displayed in a table with columns: product_rating, quantity, product_name, category, prd_id, and availability. The data includes various products like Bananas, Great Value No Sugar Added Whole Strawberries, Great Value Frozen Pineapple Chunks, Sprite Lemon Lime Soda, Red Delicious Apples, Freshness Guaranteed Gala Apples, and Green Onion, all with an availability of 'In stock · Curbside'.

product_rating	quantity	product_name	category	prd_id	availability
	1 lb	Bananas - 1 lb Bunch	fruits	5	In stock · Curbside
	00 oz	Great Value No Sugar Added Whole Strawberrie...	fruits	8	In stock · Curbside
	48 oz	Great Value Frozen Pineapple Chunks	fruits	16	In stock · Curbside
	1 Each	Sprite Lemon Lime Soda - 67.6 fl oz bottle	fruits	18	In stock · Curbside
	5 lb	Red Delicious Apples	fruits	28	In stock · Curbside
	3 lb	Freshness Guaranteed Gala Apples	fruits	33	In stock · Curbside
	1 lb	Bananas - 1 lb Bunch	fruits	40	In stock · Curbside
	1 lb	Bananas - 1 lb Bunch	fruits	41	In stock · Curbside
	00 oz	Great Value No Sugar Added Whole Strawberrie...	fruits	44	In stock · Curbside
	1 Each	Great Value Organic Pomegranate Juice	essentials	49	In stock · Curbside
	1 Each	Green Onion	vegetables	55	In stock · Curbside

17. As a customer can I get the price of pineapple having ratings above 4

SELECT

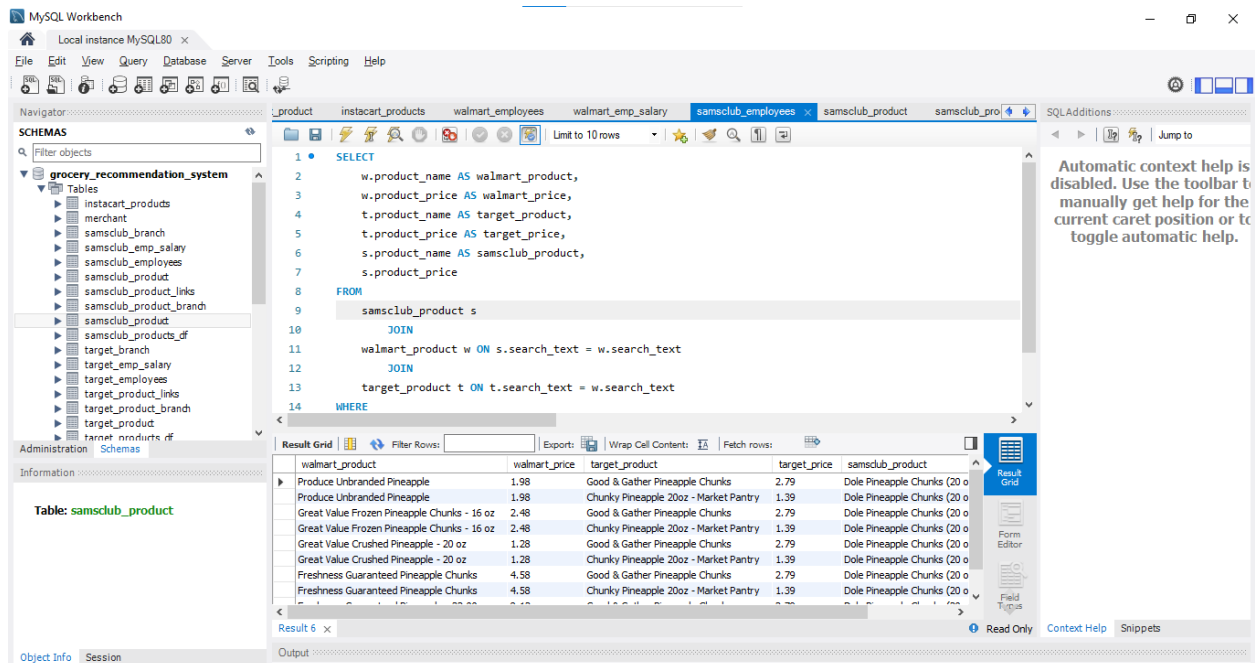
w.product_name AS walmart_product,
w.product_price AS walmart_price,
t.product_name AS target_product,
t.product_price AS target_price,
s.product_name AS samsclub_product,
s.product_price

FROM

```

samsclub_product s
JOIN
walmart_product w ON s.search_text = w.search_text
JOIN
target_product t ON t.search_text = w.search_text
WHERE
s.search_text = 'Pineapple'
AND s.product_rating > 4 and s.availabilty='delivery only';

```



18. As a customer can I know the products available for delivery only in target

```

SELECT
*
FROM
target_products_df
where
availabilty = 'delivery only';

```

The screenshot shows a database management tool interface. On the left is a 'SCHEMAS' tree view with a search bar and a list of tables including 'grocery_recommendation', 'grocery_recommendation_syst', 'instacart_products', 'merchant', 'samsclub_branch', 'samsclub_emp_salary', 'samsclub_employees', 'samsclub_products_df', 'target_branch', 'target_emp_salary', 'target_employees', 'target_products_df', 'walmart_branch', 'walmart_emp_salary', 'walmart_employees', and 'walmart_products_df'. The main window displays a SQL query in the 'Scripting' tab:

```

1 SELECT
2 *
3 FROM
4 target_products_df
5 where
6 availability = 'delivery only';

```

Below the query is the 'Result Grid' showing the following data:

quantity	product_name	availability	category	zipcode	prd_id	
15 oz	Goya Cream of Coconut	delivery only	fruits	0	20	0
1 oz	Made in Nature Mangoes	delivery only	fruits	0	30	0
28oz	Whole Peeled Tomatoes 28oz - Good & Gather	delivery only	vegetables	0	69	0
1 Each	Good & Gather Sliced Carrots	delivery only	vegetables	0	78	0
28oz	Whole Peeled Tomatoes 28oz - Good & Gather	delivery only	vegetables	0	106	0
4lbs	Granulated Sugar - 4lbs - Good & Gather	delivery only	essentials	0	125	0
4 lb	Imperial Sugar Extra Fine Granulated Pure Cane...	delivery only	essentials	0	127	0
4lbs	Organic Sugar - 4lbs - Good & Gather	delivery only	essentials	0	128	0
2 lb	Crystal Sugar Sugar	delivery only	essentials	0	130	0
26 oz	Morton Salt	delivery only	essentials	0	131	0
26oz	Plain Salt - 26oz - Good & Gather	delivery only	essentials	0	132	0

On the right side of the interface, there are buttons for 'Result Grid', 'Form Editor', and 'Field Types'. The bottom status bar shows 'target_products_df3' and an 'Apply' button.

19. View only the products that has to be restocked for a walmart employee

create view samsclub_restock_prod as

SELECT

*

FROM

samsclub_products_df as s

WHERE

s.availabilty like '%Limited stock';

select * from samsclub_restock_prod;

The screenshot shows a database management interface with a menu bar (File, Edit, View, Query, Database, Server, Tools, Scripting, Help) and a toolbar. The 'Navigator' pane on the left lists various database objects, including tables like 'samsclub_employees', 'samsclub_products_df', 'target_branch', etc., and a 'Views' section containing 'samsclub_restock_prod'. The main query editor displays the following SQL code:

```

1 • create view samsclub_restock_prod as
2   SELECT
3     *
4   FROM
5     samsclub_products_df as s
6   WHERE
7     s.availabilty like '%Limited stock';
8 • select * from samsclub_restock_prod;

```

Below the query editor, the 'Result Grid' shows the output of the query. It includes a 'Filter Rows' field, an 'Export' button, and a 'Wrap Cell Content' option. The data is presented in a table with the following columns: quantity, product_name, availability, category, zipcode, prd_id, and branch_id.

	quantity	product_name	availability	category	zipcode	prd_id	branch_id
www....	1 Each	Jumbo Golden Pineapple - Each	Limited stock	fruits	03051	8	1
www....	5 lbs	Gala Apples (5 lbs.)	Limited stock	fruits	03051	15	1
www....	3 ct	Seedless English Cucumbers (3 ct.)	Limited stock	vegetables	03051	37	1
www....	2 lb	Mini Cucumbers - 2 lb Bag	Limited stock	vegetables	03051	38	1
www....	1 Each	Sunset Grape Tomatoes - lb	Limited stock	vegetables	03051	46	1
www....	2 lb	Mini Cucumbers - 2 lb Bag	Limited stock	vegetables	03051	49	1
www....	3 ct	Seedless English Cucumbers (3 ct.)	Limited stock	vegetables	03051	50	1

The bottom of the interface shows a 'Schema:' section and an 'Output' pane.

20. As a customer i like to know links of product having ratings 4?

```

SELECT
    p.product_name, l.product_link
FROM
    target_product AS p,
    target_product_links AS l
WHERE
    p.prd_id = l.prd_id

```

AND p.product_rating = 4;

The screenshot shows the MySQL Workbench interface. The left sidebar contains a 'SCHEMAS' panel with a tree view of databases and tables. The 'grocery_recommendation_system' database is selected, showing tables like 'instacart_products', 'merchant', 'samsclub_branch', 'samsclub_emp_salary', 'samsclub_employees', 'samsclub_product', 'samsclub_product_links', 'samsclub_product_branch', 'samsclub_product_brand', 'samsclub_products_df', 'target_branch', 'target_emp_salary', 'target_employees', 'target_product_links', 'target_product_brand', 'target_product', and 'target_products_df'. The 'Information' panel shows details for the 'samsclub_product' table, including columns: search_text (text), product_price (double), product_rating (double), quantity (text), product_name (text), category (text), and prd_id (bigint(20)).

The central SQL editor displays the following query:

```
1 • SELECT
2   p.product_name, l.product_link
3 FROM
4   target_product AS p,
5   target_product_links AS l
6 WHERE
7   p.prd_id = l.prd_id
8   AND p.product_rating = 4;
```

The 'Result Grid' shows the following data:

product_name	product_link
Honeycrisp Apple - Each	https://www.google.com/shopping/product/510...
Honeycrisp Apple - Each	https://www.google.com/shopping/product/510...
Broccoli Medley - 12oz - Good & Gather	https://www.google.com/shopping/product/896...
Whole Wheat Flour - 5lb - Good & Gather	https://www.google.com/shopping/product/119...
Good & Gather Cage-Free Hard-Cooked Medium...	https://www.google.com/shopping/product/320...
Utz Potato Chips	https://www.google.com/shopping/product/112...

The 'Output' panel at the bottom shows the execution details: 172 23:18:18 SELECT p.product_name,l.product link FROM target_product AS p, target... 10 row(s) returned. Duration / Fetch: 0.016 sec / 0.000 sec.

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.