Database Management System

Project 1 Phase 1

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Q1. Display the ITEM details based on any one of the following: item name or Item Id.

Graphical user interface, text, application

Description automatically generated

When we start the interface, we see a page named items containing the following:

A button Add Item to add items.

A Table containing Id, Name, and Operations (Update and Delete).

When we click on the item name of our interest in our example Broccoli Sprouts it will take us to a item details page as shown below.

This page displays a table containing id, name, Price of the item.

It also has a back button which takes us back to items page.

Graphical user interface, text, application

Description automatically generated

Q2. Insert a new item “Carot Sprouts” in the Arlington Sprouts database using the web interface you created.

In order to insert an item we click Add item Button.

Graphical user interface, application

Description automatically generated

After clicking Add Item button it redirects us to Insert Item page which takes Item name and Price as input. After clicking submit we will be redirected to display page.

Graphical user interface, text, application

Description automatically generated

Display page showing us the inserted item.

Graphical user interface, application

Description automatically generated

Q3. Update the item record that you just added “Carot Sprouts” to “Carrot Sprouts” using the web interface you created.

Graphical user interface, text, application

Description automatically generated

Clicking the update button next to the item name you want to change the program will redirect you to the update item page and you can change the item's name. On clicking update it will take you back to the display page and show you the updated name of the item.

Graphical user interface, application

Description automatically generated

Q4. Delete the item record “Carrot Sprouts” that you just added using the web interface you created.

On clicking delete button next to the item it will delete the record along with id, name and price from the database.

Graphical user interface, application, table

Description automatically generated

**View-based questions**

**Creating the View ItemView**

**Create a view ItemView that displays a list of records where each record is comprised of the itemId as iId, item name as ItemName, the number of boxes of the item sold as NoOfBoxes, the item price as ItemPrice, the revenue generated by each item as ItemRevenue, and the number of customers as ItemCustomers who bought the item boxes at any of the Arlington Sprouts stores.**

***Command***

CREATE VIEW ItemView AS

SELECT i.iId AS iId,

i.Iname AS ItemName,

SUM(oi.Icount) AS NoOfBoxes,

i.Sprice AS ItemPrice,

SUM(oi.Icount \* i.Sprice) AS ItemRevenue,

COUNT(DISTINCT o.cId) AS ItemCustomers

FROM item i

JOIN order\_item oi ON i.iId = oi.iId

JOIN orders o ON oi.oId = o.oId

GROUP BY i.iId;

***Output***

***Graphical user interface, text, application

Description automatically generated***

**Write an SQL query to display the contents of the view ItemView**

***Command***

SELECT \* FROM ItemView;

***Output***

***Graphical user interface, text, application

Description automatically generated***

**QV1 Use the view ItemView to retrieve a list of records where each record is comprised of item Id, item name, the number of boxes of items sold, and the price of each box of the item for all items that cost more than $3.00 and that have been bought by customers.**

***Command***

SELECT iId, ItemName, NoOfBoxes, ItemPrice

FROM ItemView

WHERE ItemPrice > 3.00 AND ItemCustomers > 0;

***Output***

***Graphical user interface, text, application, email

Description automatically generated***

**QV2 Use the view ItemView to retrieve a list of records where each record is comprised of the item Name and the ItemRevenue for the item(s) that generated the minimum revenue in the database.**

***Command***

SELECT ItemName, ItemRevenue AS 'MinItemRevenue'

FROM ItemView

WHERE ItemRevenue =

(

SELECT MIN(ItemRevenue)

FROM ItemView

);

Graphical user interface, text, application, email

Description automatically generated

**QV3 Use the view ItemView to generate the min, max and average revenue generated by all the items in the ItemView.**

***Command***

SELECT MIN(ItemRevenue) AS MinItemRevenue,

MAX(ItemRevenue) AS MaxItemRevenue,

AVG(ItemRevenue) AS AvgItemRevenue

FROM ItemView;

***Output***

Graphical user interface, text, application

Description automatically generated

**QV4 Use the view ItemView to retrieve a list of records where each record is comprised of an item name along with the number of customers who bought it. Sort the list by the number of customers in descending order followed by item names in an ascending order.**

***Command***

SELECT ItemName, ItemCustomers

FROM ItemView

ORDER BY ItemCustomers DESC, ItemName ASC;

***Output***

Graphical user interface, text, application, email

Description automatically generated

**QV5 Use the view ItemView to retrieve the total revenue earned, the total number of boxes sold and the average revenue per box sold by Arlington Sprouts as stored in the database.**

***Command***

SELECT SUM(ItemRevenue) AS TotalRevenue,

SUM(NoOfBoxes) AS TotalNoOfBoxes,

SUM(ItemRevenue)/SUM(NoOfBoxes) AS 'AvgRevenue/Box'

FROM ItemView;

***Output***

Graphical user interface, text, application

Description automatically generated

Honor Code

Jay Patel

Text, letter

Description automatically generated

**Honor Code**

Sreelakshmi Mopuri

