

A2_Liu_Eliza

1. Import the Fortune500_2019 dataset using the Oracle cloud SQL developer interface data loading option. Compare commands for selecting columns using R, Python, and SQL for the Fortune500_2019 dataset. Provide screenshots of results. **(7 points)**

SQL: SELECT * FROM Fortune500_2019;
SELECT Company, Revenue, Profits

FROM Fortune500_2019;

SELECT Company, Revenue, Profits

FROM Fortune500_2019





WHERE Revenue > 50000;

SELECT Company, Revenue, PROFITS

FROM Fortune500_2019

ORDER BY Revenue DESC;

1	SELECT * FROM Fortune500_2019;
2	SELECT Company, Revenue, Profits
3	FROM Fortune500_2019;
4	SELECT Company, Revenue, Profits
5	FROM Fortune500_2019
6	WHERE Revenue > 50000;
7	SELECT Company, Revenue, PROFITS
8	FROM Fortune500_2019
9	ORDER BY Revenue DESC;

Query Result	Script Output	DBMS Output	Explain Plan	Autotrace
   Download  Execution time: 0.012 seconds				
	COMPANY	REVENUE	PROFITS	
1	Walmart	514405	6670	
2	Exxon Mobil	290212	20840	
3	Apple	265595	59531	
4	Berkshire Hathaway	247837	4021	
5	Amazon.com	232887	10073	
6	UnitedHealth Group	226247	11986	

R:

```
Fortune500_2019<- read.csv("Downloads/BSAN 726/Week_3 DataManagement/Monday  
Class/Fortune500_2019.csv")
```

```

```{r}
Fortune500_2019<- read.csv("Downloads/BSAN 726/Week_3 DataManagement/Monday Class/Fortune500_2019.csv")
selected_columns <- Fortune500_2019 %>%
select(Company, Revenue, Profits)
print(selected_columns)
```

```

| Company
<chr> | Revenue
<dbl> | Profits
<dbl> |
|--------------------|------------------|------------------|
| Walmart | 514405.0 | 6670.0 |
| Exxon Mobil | 290212.0 | 20840.0 |
| Apple | 265595.0 | 59531.0 |
| Berkshire Hathaway | 247837.0 | 4021.0 |
| Amazon.com | 232887.0 | 10073.0 |
| UnitedHealth Group | 226247.0 | 11986.0 |
| McKesson | 208357.0 | 67.0 |
| CVS Health | 194579.0 | -594.0 |
| AT&T | 170756.0 | 19370.0 |
| AmerisourceBergen | 167939.6 | 1658.4 |

```
print(selected_columns)
```

```
[500 rows x 3 columns]
```

2. In SQL, we use the *where* clause to selectively filter rows. How can we filter rows in R and Python? Give simple examples using the Fortune500_2019 dataset. Provide screenshots of results. **(8 points)**

Load the CSV file (assuming it's located in the working directory)

```
fortune500 <- read.csv("Fortune500_2019.csv")
```

Filter rows where Revenue > 50000

```
filtered_data <- fortune500[fortune500$Revenue > 50000, ]
```

View the filtered rows

```
print(filtered_data)
```

```
## {r}
# Load the CSV file (assuming it's located in the working directory)
fortune500 <- read.csv("Downloads/BSAN 726/Week_3 DataManagement/Monday Class/Fortune500_2019.csv")

# Filter rows where Revenue > 50000
filtered_data <- fortune500[fortune500$Revenue > 50000, ]

# View the filtered rows
print(filtered_data)
```

Description: df [63 x 11]

| | Rank
<int> | Company
<chr> | EmployeeCount
<int> | Revenue
<dbl> | Profits
<dbl> | Assets
<dbl> |
|----|---------------|--------------------|------------------------|------------------|------------------|-----------------|
| 1 | 1 | Walmart | 2200000 | 514405.0 | 6670.0 | 219295.0 |
| 2 | 2 | Exxon Mobil | 71000 | 290212.0 | 20840.0 | 346196.0 |
| 3 | 3 | Apple | 132000 | 265595.0 | 59531.0 | 365725.0 |
| 4 | 4 | Berkshire Hathaway | 389000 | 247837.0 | 4021.0 | 707794.0 |
| 5 | 5 | Amazon.com | 647500 | 232887.0 | 10073.0 | 162648.0 |
| 6 | 6 | UnitedHealth Group | 300000 | 226247.0 | 11986.0 | 152221.0 |
| 7 | 7 | McKesson | 68000 | 208357.0 | 67.0 | 60381.0 |
| 8 | 8 | CVS Health | 295000 | 194579.0 | -594.0 | 196456.0 |
| 9 | 9 | AT&T | 268220 | 170756.0 | 19370.0 | 531864.0 |
| 10 | 10 | AmerisourceBergen | 20500 | 167939.6 | 1658.4 | 37669.8 |

1-10 of 63 rows | 1-7 of 11 columns

Previous 1 2 3 4 5 6 7 Next

import pandas as pd

Load the CSV file

```
fortune500 = pd.read_csv("Fortune500_2019.csv")
```

Filter rows where Revenue > 50000

```
filtered_data = fortune500[fortune500['Revenue'] > 50000]
```

View the filtered rows

```
print(filtered_data)
```



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```
import pandas as pd

# Load the CSV file
fortune500 = pd.read_csv("Fortune500_2019.csv")

# Filter rows where Revenue > 50000
filtered_data = fortune500[fortune500['Revenue'] > 50000]

# View the filtered rows
print(filtered_data)
```



| | Rank | Company | EmployeeCount | Revenue | Profits | Assets | \ |
|----|------|------------------------|---------------|----------|---------|----------|---|
| 0 | 1 | Walmart | 2200000 | 514405.0 | 6670.0 | 219295.0 | |
| 1 | 2 | Exxon Mobil | 71000 | 290212.0 | 20840.0 | 346196.0 | |
| 2 | 3 | Apple | 132000 | 265595.0 | 59531.0 | 365725.0 | |
| 3 | 4 | Berkshire Hathaway | 389000 | 247837.0 | 4021.0 | 707794.0 | |
| 4 | 5 | Amazon.com | 647500 | 232887.0 | 10073.0 | 162648.0 | |
| .. | ... | ... | ... | ... | ... | ... | |
| 58 | 59 | Energy Transfer Equity | 11768 | 54436.0 | 1694.0 | 88246.0 | |
| 59 | 60 | Lockheed Martin | 105000 | 53762.0 | 5046.0 | 44876.0 | |
| 60 | 61 | Pfizer | 92400 | 53647.0 | 11153.0 | 159422.0 | |
| 61 | 62 | Goldman Sachs Group | 36600 | 52528.0 | 10459.0 | 931796.0 | |
| 62 | 63 | Morgan Stanley | 60348 | 50193.0 | 8748.0 | 853531.0 | |

| | MarketValue | Sector | \ |
|----|-------------|---------------------|---|
| 0 | 279880.3 | Retailing | |
| 1 | 342172.0 | Energy | |
| 2 | 895667.4 | Technology | |
| 3 | 493870.3 | Financials | |
| 4 | 874709.5 | Technology | |
| .. | ... | ... | |
| 58 | 40260.0 | Energy | |
| 59 | 84887.6 | Aerospace & Defense | |
| 60 | 235785.1 | Health Care | |
| 61 | 70414.9 | Financials | |
| 62 | 72110.8 | Financials | |

| | Industry | Hqcity | Hqstate |
|----|--|-------------|---------|
| 0 | General Merchandisers | Bentonville | AR |
| 1 | Petroleum Refining | Irving | TX |
| 2 | Computers, Office Equipment | Cupertino | CA |
| 3 | Insurance: Property and Casualty (Stock) | Omaha | NE |
| 4 | Internet Services and Retailing | Seattle | WA |
| .. | ... | ... | ... |
| 58 | Pipelines | Dallas | TX |
| 59 | Aerospace and Defense | Bethesda | MD |
| 60 | Pharmaceuticals | New York | NY |
| 61 | Commercial Banks | New York | NY |
| 62 | Commercial Banks | New York | NY |

[63 rows x 11 columns]

3.

```
DROP TABLE PUR_CUSTOMER ;  
DROP TABLE PUR_PRODUCT ;  
DROP TABLE PUR_SALES ;  
DROP TABLE PUR SALESPERSON ;  
DROP TABLE PUR_SALES_CONTACT ;
```

```
CREATE TABLE PUR_CUSTOMER (  
    CUSTOMER_ID INTEGER PRIMARY KEY,  
    FIRST_NAME VARCHAR2(50),  
    LAST_NAME VARCHAR2(50),  
    ADDRESS VARCHAR2(80),  
    CITY VARCHAR2(40),  
    COUNTRY VARCHAR2(50),  
    DATE_ADDED DATE,  
    REGION VARCHAR2(10),  
    EMAIL VARCHAR2(100) UNIQUE  
);
```

```
CREATE TABLE PUR_PRODUCT (  
    PRODUCT_ID INTEGER PRIMARY KEY,  
    PRODUCT_NAME VARCHAR2(100),  
    STANDARD_COST NUMBER(10,2),  
    LIST_PRICE NUMBER(10,2)  
);
```

```
CREATE TABLE PUR_SALES (  
    SALES_ID INTEGER PRIMARY KEY,  
    SALES_DATE DATE,  
    ORDER_ID INTEGER,  
    PRODUCT_ID INTEGER,  
    CUSTOMER_ID INTEGER,  
    UNIT_PRICE NUMBER(10,2),  
    DISCOUNT NUMBER(10,2),  
    TOTAL_AMOUNT NUMBER(10,2),  
    FOREIGN KEY (PRODUCT_ID) REFERENCES PUR_PRODUCT(PRODUCT_ID),  
    FOREIGN KEY (CUSTOMER_ID) REFERENCES PUR_CUSTOMER(CUSTOMER_ID)  
);
```

```
CREATE TABLE PUR SALESPERSON (  
    SALESPERSON_ID INTEGER PRIMARY KEY,  
    JOB_TITLE VARCHAR2(80),  
    FIRST_NAME VARCHAR2(50),  
    LAST_NAME VARCHAR2(50),  
    MANAGER VARCHAR2(20)  
);
```

```
CREATE TABLE PUR_SALES_CONTACT (  
    SALES_ID INTEGER,  
    SALESPERSON_ID INTEGER,  
    COMMISSION NUMBER(6,2),
```

PRIMARY KEY (SALES_ID, SALESPERSON_ID),
FOREIGN KEY (SALES_ID) REFERENCES PUR_SALES(SALES_ID),
FOREIGN KEY (SALESPERSON_ID) REFERENCES PUR_SALESPERSON(SALESPERSON_ID)

);

4.

| | SER_ID | FIRST_NAME | LAST_NAME | ADDRESS | CITY | COUNTRY | DATE_ADDED | REGION | EMAIL |
|----|------------|----------------------|---------------|-----------------------|-------------|------------|---------------------|--------------|----------------|
| 1 | 16 | JAMES | SMITH | 555 Willie Stargell A | Alameda | USA | 2/24/2021, 12:00:00 | WEST | james.s@cooln |
| 2 | 10 | JOHN | DOE | 200 Clinton Pkwy | Lawrence | USA | 1/12/2021, 12:00:00 | MIDWEST | johnny.d@cooln |
| 3 | 15 | DIANA | THOMAS | 1010 East Roger St | Miami | USA | 1/12/2021, 12:00:00 | SOUTH | diana.t@bright |
| 4 | 11 | JANE | DOE | 201 Clinton Pkwy | Lawrence | USA | 2/12/2021, 12:00:00 | MIDWEST | jane.d@fancyr |
| 5 | 12 | ALICA | EDWARD | 3456 Gates Dr | Chicago | USA | 2/12/2021, 12:00:00 | MIDWEST | alica.e@funmai |
| 6 | 13 | PETER | EDWARD | 123 Sandy Dr | Phoenix | USA | 3/2/2021, 12:00:00 | WEST | peter.e@happy |
| 7 | 14 | DAVE | TAYLOR | 2345 Petersburg St | Austin | USA | 3/2/2021, 12:00:00 | WEST | dave.t@joymail |
| 8 | 17 | SARAH | JOHNSON | 190 E. Stacy Rd | Allen | USA | 5/7/2021, 12:00:00 | SOUTH | sarah.j@fancyr |
| 9 | 18 | EMILY | WILSON | 1168 State College E | Anaheim | USA | 5/12/2021, 12:00:00 | WEST | emily.w@funmai |
| | PRODUCT_ID | PRODUCT_NAME | STANDARD_COST | LIST_PRICE | | | | | |
| 1 | 500 | Airpods Pro | 160 | 200 | | | | | |
| 2 | 100 | Mobile Cover | 30 | 35 | | | | | |
| 3 | 300 | LG F100 | 100 | 15 | | | | | |
| 4 | 400 | Apple A100 | 110 | 125 | | | | | |
| 5 | 200 | Samsung F7100 | 80 | 100 | | | | | |
| 6 | 600 | MacBook | 1000 | 1200 | | | | | |
| 7 | 700 | Sony A9 | 200 | 225 | | | | | |
| | SALES_ID | SALES_DATE | ORDER_ID | PRODUCT_ID | CUSTOMER_ID | UNIT_PRICE | DISCOUNT | TOTAL_AMOUNT | |
| 1 | 1005 | 10/16/2021, 12:00:00 | 400 | 400 | 14 | 50 | (null) | 125 | |
| 2 | 1009 | 12/24/2021, 12:00:00 | 700 | 700 | 15 | 110 | (null) | 150 | |
| 3 | 1004 | 11/25/2021, 12:00:00 | 300 | 300 | 13 | 40 | (null) | 80 | |
| 4 | 1006 | 11/20/2021, 12:00:00 | 500 | 500 | 12 | 75 | (null) | 100 | |
| 5 | 1007 | 7/2/2021, 12:00:00 | 600 | 600 | 15 | 20 | (null) | 50 | |
| 6 | 1008 | 9/30/2021, 12:00:00 | 500 | 500 | 17 | 100 | (null) | 200 | |
| 7 | 1010 | 11/11/2021, 12:00:00 | 400 | 400 | 18 | 50 | (null) | 75 | |
| 8 | 1001 | 8/12/2021, 12:00:00 | 100 | 100 | 11 | 40 | (null) | 440 | |
| 9 | 1002 | 9/22/2021, 12:00:00 | 200 | 200 | 13 | 35 | (null) | 50 | |
| 10 | 1003 | 8/25/2021, 12:00:00 | 300 | 300 | 13 | 40 | (null) | 80 | |

| | SALESPERSON_ID | JOB_TITLE | FIRST_NAME | LAST_NAME | MANAGER |
|---|----------------|------------------|------------|-----------|---------|
| 1 | 11001 | Developer | Anita | Borg | Greg |
| 2 | 11002 | Customer Facing | Samantha | Doe | John |
| 3 | 11004 | Entry Level | Tom | Pardi | Jane |
| 4 | 11006 | Customer Facing | Olivia | White | John |
| 5 | 11000 | Entry Level | Ben | Thomas | Greg |
| 6 | 11003 | Entry Level | Sue | Bellman | Jane |
| 7 | 11005 | Sales Consultant | David | Brown | John |
| 8 | 11007 | Developer | Robert | Taylor | Greg |

| | SALES_ID | SALESPERSON_ID | COMMISSION |
|----|----------|----------------|------------|
| 1 | 1001 | 11003 | 4.3 |
| 2 | 1004 | 11004 | 10.5 |
| 3 | 1001 | 11004 | 4.5 |
| 4 | 1005 | 11006 | 2.5 |
| 5 | 1007 | 11007 | 5.5 |
| 6 | 1010 | 11007 | 11.1 |
| 7 | 1002 | 11001 | 30.92 |
| 8 | 1003 | 11002 | 9.9 |
| 9 | 1006 | 11005 | 12.6 |
| 10 | 1008 | 11005 | 20.2 |
| 11 | 1009 | 11006 | 40.9 |

5.1

-- Update the city for customer Dave Taylor with CUSTOMER_ID 14

UPDATE PUR_CUSTOMER

SET CITY = 'Austin'

WHERE CUSTOMER_ID = 14;

-- Display the updated PUR_CUSTOMER table

SELECT * FROM PUR_CUSTOMER;

| | IER_ID | FIRST_NAME | LAST_NAME | ADDRESS | CITY | COUNTRY | DATE_ADDED | REGION | EMAIL |
|---|--------|------------|-----------|-----------------------|----------|---------|---------------------|---------|-----------------|
| 1 | 16 | JAMES | SMITH | 555 Willie Stargell A | Alameda | USA | 2/24/2021, 12:00:00 | WEST | james.s@coolr |
| 2 | 10 | JOHN | DOE | 200 Clinton Pkwy | Lawrence | USA | 1/12/2021, 12:00:00 | MIDWEST | johnny.d@coolr |
| 3 | 15 | DIANA | THOMAS | 1010 East Roger St | Miami | USA | 1/12/2021, 12:00:00 | SOUTH | diana.t@brightr |
| 4 | 11 | JANE | DOE | 201 Clinton Pkwy | Lawrence | USA | 2/12/2021, 12:00:00 | MIDWEST | jane.d@fancym |
| 5 | 12 | ALICA | EDWARD | 3456 Gates Dr | Chicago | USA | 2/12/2021, 12:00:00 | MIDWEST | alica.e@funmai |
| 6 | 13 | PETER | EDWARD | 123 Sandy Dr | Phoenix | USA | 3/2/2021, 12:00:00 | WEST | peter.e@happy |
| 7 | 14 | DAVE | TAYLOR | 2345 Petersburg St | Austin | USA | 3/2/2021, 12:00:00 | WEST | dave.t@joymail |
| 8 | 17 | SARAH | JOHNSON | 190 E. Stacy Rd | Allen | USA | 5/7/2021, 12:00:00 | SOUTH | sarah.j@fancyn |
| 9 | 18 | EMILY | WILSON | 1168 State College E | Anaheim | USA | 5/12/2021, 12:00:00 | WEST | emily.w@funma |

5.2-- Insert a new row into the PUR_PRODUCT table

```
INSERT INTO PUR_PRODUCT (PRODUCT_ID, PRODUCT_NAME, STANDARD_COST, LIST_PRICE)
```

```
VALUES (900, 'Chromebook', 400, 500);
```

-- Display the updated PUR_PRODUCT table

```
SELECT * FROM PUR_PRODUCT;
```

| | PRODUCT_ID | PRODUCT_NAME | STANDARD_COST | LIST_PRICE |
|---|------------|---------------|---------------|------------|
| 1 | 500 | Airpods Pro | 160 | 200 |
| 2 | 100 | Mobile Cover | 30 | 35 |
| 3 | 300 | LG F100 | 100 | 15 |
| 4 | 400 | Apple A100 | 110 | 125 |
| 5 | 200 | Samsung F7100 | 80 | 100 |
| 6 | 600 | MacBook | 1000 | 1200 |
| 7 | 700 | Sony A9 | 200 | 225 |
| 8 | 900 | Chromebook | 400 | 500 |

5.3

-- Modify the datatype of the TOTAL_AMOUNT column in PUR_SALES table

```
ALTER TABLE PUR_SALES
```

```
MODIFY TOTAL_AMOUNT NUMBER(15,2);
```

-- Describe the PUR_SALES table to verify the changes

```
DESC PUR_SALES;
```


| Name | Null? | Type |
|--------------|----------|--------------|
| SALES_ID | NOT NULL | NUMBER(38) |
| SALES_DATE | | DATE |
| ORDER_ID | | NUMBER(38) |
| PRODUCT_ID | | NUMBER(38) |
| CUSTOMER_ID | | NUMBER(38) |
| UNIT_PRICE | | NUMBER(10,2) |
| DISCOUNT | | NUMBER(10,2) |
| TOTAL_AMOUNT | | NUMBER(15,2) |

6.1

```
SELECT PRODUCT_ID, PRODUCT_NAME, LIST_PRICE
FROM PUR_PRODUCT
WHERE LIST_PRICE >= 100;
```

| | PRODUCT_ID | PRODUCT_NAME | LIST_PRICE |
|---|------------|---------------|------------|
| 1 | 200 | Samsung F7100 | 100 |
| 2 | 400 | Apple A100 | 125 |
| 3 | 500 | Airpods Pro | 200 |
| 4 | 600 | MacBook | 1200 |
| 5 | 700 | Sony A9 | 225 |
| 6 | 900 | Chromebook | 500 |

6.2

```
SELECT ROUND(AVG(UNIT_PRICE), 2) AS "Average Product Cost in South Region"
FROM PUR_SALES
JOIN PUR_CUSTOMER ON PUR_SALES.CUSTOMER_ID = PUR_CUSTOMER.CUSTOMER_ID
WHERE PUR_CUSTOMER.REGION = 'SOUTH';
```

| | PRODUCT COST
IN SOUTH |
|---|--------------------------|
| 1 | 76.67 |

6.3

```
-- Get the customer ID, first name, last name, and total amount purchased by each customer
SELECT PUR_CUSTOMER.CUSTOMER_ID,
       PUR_CUSTOMER.FIRST_NAME,
```

```

    PUR_CUSTOMER.LAST_NAME,
    SUM(PUR_SALES.TOTAL_AMOUNT) AS TOTAL_AMOUNT
FROM PUR_CUSTOMER
JOIN PUR_SALES ON PUR_CUSTOMER.CUSTOMER_ID = PUR_SALES.CUSTOMER_ID
GROUP BY PUR_CUSTOMER.CUSTOMER_ID, PUR_CUSTOMER.FIRST_NAME, PUR_CUSTOMER.LAST_NAME
ORDER BY TOTAL_AMOUNT ASC;

```

| | CUSTOMER_ID | FIRST_NAME | LAST_NAME | TOTAL_AMOUNT |
|---|-------------|------------|-----------|--------------|
| 1 | 18 | EMILY | WILSON | 75 |
| 2 | 12 | ALICA | EDWARD | 100 |
| 3 | 14 | DAVE | TAYLOR | 125 |
| 4 | 15 | DIANA | THOMAS | 200 |
| 5 | 17 | SARAH | JOHNSON | 200 |
| 6 | 13 | PETER | EDWARD | 210 |
| 7 | 11 | JANE | DOE | 440 |

6.4

-- Get the salespersons with total commission above 13, sorted by total commission in descending order

```

SELECT
    PUR_SALESPERSON.SALESPERSON_ID,
    CONCAT(PUR_SALESPERSON.FIRST_NAME, ' ', PUR_SALESPERSON.LAST_NAME) AS "Salesperson",
    SUM(PUR_SALES_CONTACT.COMMISSION) AS "Commission earned"
FROM PUR_SALESPERSON
JOIN PUR_SALES_CONTACT ON PUR_SALESPERSON.SALESPERSON_ID =
PUR_SALES_CONTACT.SALESPERSON_ID
GROUP BY PUR_SALESPERSON.SALESPERSON_ID, PUR_SALESPERSON.FIRST_NAME,
PUR_SALESPERSON.LAST_NAME
HAVING SUM(PUR_SALES_CONTACT.COMMISSION) > 13
ORDER BY "Commission earned" DESC;

```

| | SALESPERSON_ID | SALESPERSON | COMMISSION
EARNED |
|---|----------------|---------------|----------------------|
| 1 | 11006 | Olivia White | 43.4 |
| 2 | 11005 | David Brown | 32.8 |
| 3 | 11007 | Robert Taylor | 16.6 |
| 4 | 11004 | Tom Pardi | 15 |

6.5

-- Find the salesperson with the highest total sales

```


SELECT

```

```

    CONCAT(PUR_SALESPERSON.FIRST_NAME, ' ', PUR_SALESPERSON.LAST_NAME) AS "Salesperson",
    SUM(PUR_SALES.TOTAL_AMOUNT) AS "Total Sales"
FROM PUR_SALESPERSON
JOIN PUR_SALES_CONTACT ON PUR_SALESPERSON.SALESPERSON_ID =
PUR_SALES_CONTACT.SALESPERSON_ID
JOIN PUR_SALES ON PUR_SALES_CONTACT.SALES_ID = PUR_SALES.SALES_ID
GROUP BY PUR_SALESPERSON.FIRST_NAME, PUR_SALESPERSON.LAST_NAME
ORDER BY "Total Sales" DESC
FETCH FIRST 1 ROWS ONLY;

```

| | SALESPERSON | | TOTAL SALES |
|---|-------------|---|-------------|
| 1 | Tom Pardi |  | 520 |

7.1

```

SELECT CNUM AS "Customer Name", PRIORITY
FROM RES_CUSTOMERS
WHERE PRIORITY BETWEEN 15 AND 25
ORDER BY "Customer Name" ASC;

```

| | CUSTOMER
NAME | PRIORITY |
|---|------------------|----------|
| 1 | C100 | 20 |
| 2 | C400 | 20 |

7.2

-- Find the total number of distinct dishes prepared in each restaurant headquartered in Boston or Los Angeles

```

SELECT
    RES_RESTAURANTS.RESTAURANTNAME,
    COUNT(DISTINCT RES_DISHES.DISHNAME) AS DISH_COUNT
FROM RES_RESTAURANTS
JOIN RES_ORDERS ON RES_RESTAURANTS.RNUM = RES_ORDERS.RNUM
JOIN RES_DISHES ON RES_ORDERS.DNUM = RES_DISHES.DNUM
WHERE RES_RESTAURANTS.HQLOCATION IN ('Boston', 'LosAngeles')
GROUP BY RES_RESTAURANTS.RESTAURANTNAME;

```

Query Result Script Output DBMS Output Explain Plan Autotrace SQL History

   Download Execution time: 0.018 seconds

| | RESTAURANTNAM | DISH_COUNT |
|---|-------------------|------------|
| 1 | SiamPalace | 2 |
| 2 | CheesecakeFactory | 6 |
| 3 | GoldenDragon | 2 |

7.3

SELECT

RES_DISHES.DISHNAME,

CONCAT('\$', ROUND(RES_DISHES.LISTPRICE, 0)) AS LIST_PRICE,


RES_DISHES.CALORIES

FROM RES_ORDERS

JOIN RES_CUSTOMERS ON RES_ORDERS.CNUM = RES_CUSTOMERS.CNUM

JOIN RES_DISHES ON RES_ORDERS.DNUM = RES_DISHES.DNUM

WHERE RES_CUSTOMERS.CUSTNAME = 'Howard';

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   Download Execution time: 0.009 seconds

| | DISHNAME | LIST_PRICE | CALORIES |
|----|-----------------|------------|----------|
| 1 | BBQbaconBurger | \$10 | 1200 |
| 2 | MeeKrob | \$25 | 600 |
| 3 | MeeKrob | \$25 | 600 |
| 4 | ChickenSatay | \$20 | 800 |
| 5 | CashewChicken | \$10 | 1500 |
| 6 | BurritoGrande | \$20 | 1000 |
| 7 | BurritoGrande | \$20 | 1000 |
| 8 | BurritoGrande | \$20 | 1000 |
| 9 | SteamedDumpling | \$10 | 400 |
| 10 | SteamedDumpling | \$10 | 400 |

7.4

SELECT

RES_ORDERS.CNUM AS "Customer Number",

SUM(RES_ORDERS.QUANT) AS "total cashew chicken consumed"

FROM RES_ORDERS

JOIN RES_DISHES ON RES_ORDERS.DNUM = RES_DISHES.DNUM

WHERE RES_DISHES.DISHNAME = 'CashewChicken'

GROUP BY RES_ORDERS.CNUM

ORDER BY "total cashew chicken consumed" DESC;

| | CUSTOMER
NUMBER | TOTAL CASHEW
CHICKEN CONSUMED |
|---|----------------------------|--|
| 1 | C500 | 8 |
| 2 | C300 | 5 |

7.5

SELECT

RES_DISHES.DISHNAME,

RES_RESTAURANTS.RESTAURANTNAME,

ROUND(SUM(RES_ORDERS.PRICE), 0) AS "Total Purchase"

FROM RES_ORDERS

JOIN RES_DISHES ON RES_ORDERS.DNUM = RES_DISHES.DNUM

JOIN RES_RESTAURANTS ON RES_ORDERS.RNUM = RES_RESTAURANTS.RNUM

WHERE RES_DISHES.CITYOFORIGIN = 'Houston'

GROUP BY RES_DISHES.DISHNAME, RES_RESTAURANTS.RESTAURANTNAME

ORDER BY RES_DISHES.DISHNAME, RES_RESTAURANTS.RESTAURANTNAME;

| | DISHNAME | RESTAURANTNAME | TOTAL PURCHASE |
|---|-----------------|-------------------|----------------|
| 1 | BBQbaconBurger | CheesecakeFactory | 20 |
| 2 | BBQbaconBurger | SiamPalace | 9 |
| 3 | CashewChicken | CheesecakeFactory | 24 |
| 4 | CashewChicken | SzechuanPalace | 23 |
| 5 | SteamedDumpling | CheesecakeFactory | 4 |
| 6 | SteamedDumpling | Giacomos | 3 |
| 7 | SteamedDumpling | GoldenDragon | 5 |
| 8 | SteamedDumpling | SzechuanPalace | 2 |