Assignment 4: Practice Aggregation Queries

Take your time with this assignment. Some questions are meant to be challenging. For this assignment you'll first need to execute a script to load data into a table called fruit_imports. Then you'll have to complete a variety of aggregation query puzzles and get insight into the data.

In the resources section of this lecture, you'll find the link to a SQL script that you'll need to execute. After executing that script you'll have created the table shown below. This table is called fruit_imports and it contains data on importing various fruits from different states and things like supply and cost_per_unit. The problems that follow will involve querying this table.

	id integer	name character varying (20)	season character varying (10)	state character varying (20)	supply integer	cost_per_unit numeric
1	1	Apple	All Year	Kansas	32900	0.22
2	2	Avocado	All Year	Nebraska	27000	0.15
3	3	Coconut	All Year	California	15200	0.75
4	4	Orange	Winter	California	17000	0.22
5	5	Pear	Winter	Iowa	37250	0.17
6	6	Lime	Spring	Indiana	40400	0.15
7	7	Mango	Spring	Texas	13650	0.60
8	8	Orange	Spring	Iowa	18000	0.26
9	9	Apricot	Spring	Indiana	55000	0.20
10	10	Cherry	Summer	Texas	62150	0.02
11	11	Cantaloupe	Summer	Texas	8000	0.49
12	12	Apricot	Summer	Kansas	14500	0.20
13	13	Mango	Summer	Texas	17000	0.68
14	14	Pear	Fall	Nebraska	30500	0.12
15	15	Grape	Fall	Illinois	72500	0.35

Questions for this assignment

1. Write a query that displays only the state with the largest amount of fruit supply.

2. Write a query that returns the most expensive cost_per_unit of every season. The query should display 2 columns, the season and the cost_per_unit

3. Write a query that returns the state that has more than 1 import of the same fruit.

4. Write a query that returns the seasons that produce either 3 fruits or 4 fruits.

5. Write a query that takes into consideration the supply and cost_per_unit columns for determining the total cost and returns the most expensive state with the total cost.

6. Execute the below SQL script and answer the question that follows:

```
CREATE table fruits (fruit_name varchar(10));
INSERT INTO fruits VALUES ('Orange');
INSERT INTO fruits VALUES ('Apple');
INSERT INTO fruits VALUES (NULL);
INSERT INTO fruits VALUES (NULL);
```

Write a query that returns the count of 4. You'll need to count on the column fruit_name and not use COUNT(*)

HINT: You'll need to use an additional function inside of count to make this work.

Do not scroll past here without trying out the assignment yourself

Instructor Solutions for this assignment

1. Write a query that displays only the state with the largest amount of fruit supply.

```
SELECT state
FROM fruit_imports
GROUP BY state
ORDER BY SUM(supply) desc
LIMIT 1
```

2. Write a query that returns the most expensive cost_per_unit of every season. The query should display 2 columns, the

```
SELECT season, MAX(cost_per_unit) highest_cost_per_unit
FROM fruit_imports
GROUP BY season
```

3. Write a query that returns the state that has more than 1 import of the same fruit.

```
SELECT state
FROM fruit_imports
GROUP BY state, name
HAVING COUNT(name) > 1
```

4. Write a query that returns the seasons that produce either 3 fruits or 4 fruits.

```
SELECT season, COUNT(name)
FROM fruit_imports
GROUP BY season
HAVING count(name) = 3 OR count(name) = 4
```

5. Write a query that takes into consideration the supply and cost_per_unit columns for determining the total cost and returns the most expensive state with the total cost.

```
SELECT state, SUM(supply * cost_per_unit) total_cost
FROM fruit_imports
GROUP BY state
ORDER BY total_cost desc
LIMIT 1
```

6. Execute the below SQL script and answer the question that follows:

```
CREATE table fruits (fruit_name varchar(10));
INSERT INTO fruits VALUES ('Orange');
INSERT INTO fruits VALUES ('Apple');
INSERT INTO fruits VALUES (NULL);
INSERT INTO fruits VALUES (NULL);
```

Write a query that returns the count of 4. You'll need to count on the column fruit_name and not use COUNT(*)

HINT: You'll need to use an additional function inside of count to make this work.

```
SELECT COUNT(COALESCE(fruit_name, 'SOMEVALUE'))
FROM fruits;
```