Farmers' market business cases demo

Description of this Tableau Story.	Business question 1, what quantity of each product did each vend..	SQL Query 1 sample output to csv.	Sales per vendor per month/year.	Sales per vendor per week/market	Business question 2: when are certain products in season (m..	SQL Query 2 sample output to c..

This Tableau story is a presentation that consists of multiple business cases (management questions) with relevant SQL query to obtain the info, a sample of data extracted from the database in .csv form and a Tableau Dashboard with relevant facts presented using the .csv data source.

It showcases my (current) knowledge and skill in SQL querying and Tableau dashboarding. The subject is a small fictional American farmers' market about which author Renee Teate made a training database. Source (https://sqlfordatascientists.com/sql-editor-test/).

Farmers' market business cases demo


```
/* what quantity of each product did each vendor sell per market/week/month/year? */

SELECT
 mdi.market_date,
 mdi.market_day,
 mdi.market_week,
 MONTH(cp.market_date) AS market_month,
 mdi.market_year,
 mdi.market_season,
 cp.vendor_id,
 v.vendor_name,
 p.product_id,
 p.product_name,
 ROUND(SUM(quantity),2) AS total_quantity

FROM farmers_market.customer_purchases cp
INNER JOIN farmers_market.product p ON cp.product_id = p.product_id
INNER JOIN farmers_market.market_date_info mdi ON cp.market_date = mdi.market_date
INNER JOIN farmers_market.vendor v ON v.vendor_id = cp.vendor_id
GROUP BY mdi.market_date, mdi.market_day, mdi.market_week, mdi.market_year, mdi.market_season,
cp.vendor_id, v.vendor_name, p.product_id, p.product_name
ORDER BY v.vendor_name, mdi.market_date
```

Farmers' market business cases demo

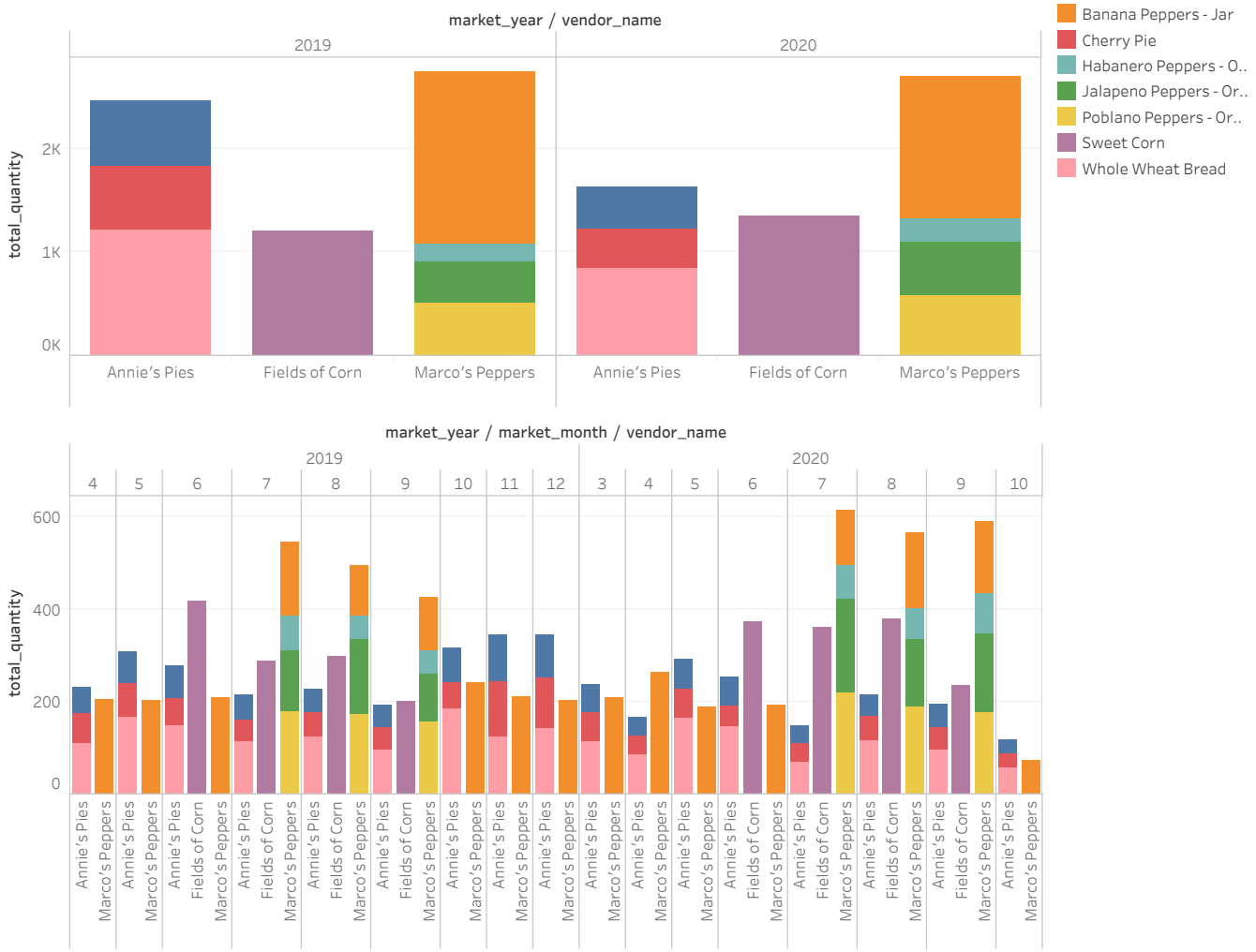
Description of this Tableau Story.	Business question 1, what quantity of each product did each vend..	SQL Query 1 sample output to csv.	Sales per vendor per month/year.	Sales per vendor per week/market	Business question 2: when are certain products in season (m..	SQL Query 2 sample output to c..

	A	B	C	D	E	F	G	H	I	J	K
1	market_date	market_day	market_week	market_month	market_year	market_season	vendor_id	vendor_name	product_id	product_name	total_quantity
2	2019-04-03	Wednesday	14	4	2019	Spring	8	Annie's Pies	8	Cherry Pie	11
3	2019-04-03	Wednesday	14	4	2019	Spring	8	Annie's Pies	7	Apple Pie	9
4	2019-04-03	Wednesday	14	4	2019	Spring	8	Annie's Pies	5	Whole Wheat Bread	6
5	2019-04-06	Saturday	14	4	2019	Spring	8	Annie's Pies	8	Cherry Pie	9
6	2019-04-06	Saturday	14	4	2019	Spring	8	Annie's Pies	7	Apple Pie	7
7	2019-04-06	Saturday	14	4	2019	Spring	8	Annie's Pies	5	Whole Wheat Bread	23
8	2019-04-10	Wednesday	15	4	2019	Spring	8	Annie's Pies	8	Cherry Pie	9
9	2019-04-10	Wednesday	15	4	2019	Spring	8	Annie's Pies	7	Apple Pie	6
10	2019-04-10	Wednesday	15	4	2019	Spring	8	Annie's Pies	5	Whole Wheat Bread	22
11	2019-04-13	Saturday	15	4	2019	Spring	8	Annie's Pies	8	Cherry Pie	7
12	2019-04-13	Saturday	15	4	2019	Spring	8	Annie's Pies	7	Apple Pie	6
13	2019-04-13	Saturday	15	4	2019	Spring	8	Annie's Pies	5	Whole Wheat Bread	6
14	2019-04-17	Wednesday	16	4	2019	Spring	8	Annie's Pies	8	Cherry Pie	10
15	2019-04-17	Wednesday	16	4	2019	Spring	8	Annie's Pies	7	Apple Pie	7
16	2019-04-17	Wednesday	16	4	2019	Spring	8	Annie's Pies	5	Whole Wheat Bread	10
17	2019-04-20	Saturday	16	4	2019	Spring	8	Annie's Pies	8	Cherry Pie	6
18	2019-04-20	Saturday	16	4	2019	Spring	8	Annie's Pies	7	Apple Pie	8
19	2019-04-20	Saturday	16	4	2019	Spring	8	Annie's Pies	5	Whole Wheat Bread	19
20	2019-04-24	Wednesday	17	4	2019	Spring	8	Annie's Pies	8	Cherry Pie	4
21	2019-04-24	Wednesday	17	4	2019	Spring	8	Annie's Pies	7	Apple Pie	6

Farmers' market business cases demo

Description of this Tableau Story.	Business question 1, what quantity of each product did each vend..	SQL Query 1 sample output to csv.	Sales per vendor per month/year.	Sales per vendor per week/market	Business question 2: when are certain products in season (m..	SQL Query 2 sample output to csv.

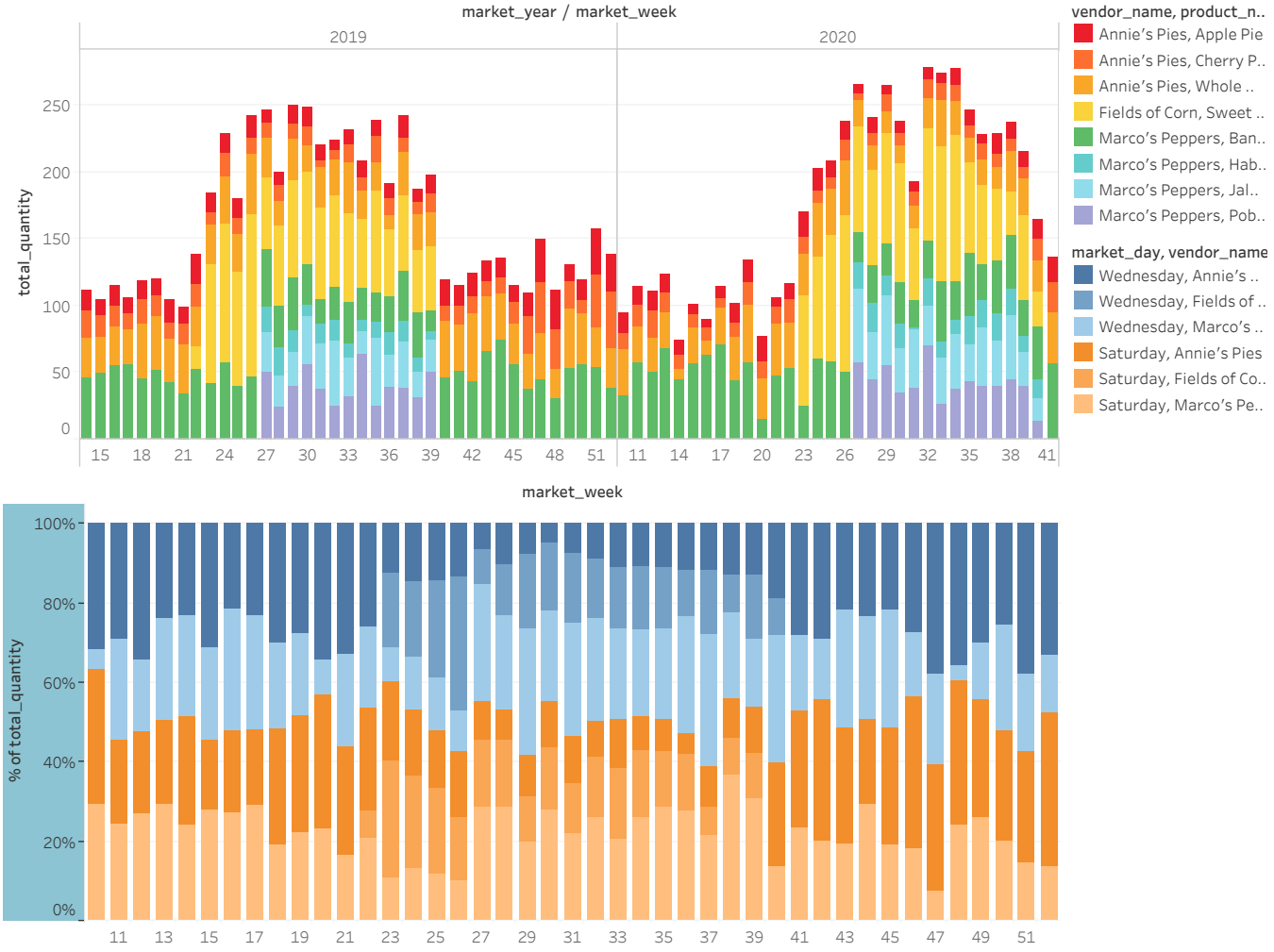
What quantity of each product did each vendor sell per month/year?



Farmers' market business cases demo

Business question 1, what quantity of eac..	SQL Query 1 sample output to csv.	Sales per vendor per month/year.	Sales per vendor per week/market	Business question 2: when are certain products in season (m..	SQL Query 2 sample output to csv.	Product Seasonality (quantity available per season).

What quantity of each product did each vendor sell per market/week?



Farmers' market business cases demo


```
/* when are certain products in season (most available for sale)? */

SELECT
 vi.market_date,
 mdi.market_day,
 mdi.market_week,
 mdi.market_year,
 mdi.market_season,
 ROUND(SUM(vi.quantity),2) AS quantity_available,
 p.product_name,
 pc.product_category_name

FROM farmers_market.vendor_inventory vi
LEFT JOIN farmers_market.product p ON p.product_id = vi.product_id
LEFT JOIN farmers_market.product_category pc ON pc.product_category_id =
p.product_category_id
LEFT JOIN farmers_market.market_date_info mdi ON mdi.market_date =
vi.market_date
GROUP BY vi.market_date, mdi.market_day, mdi.market_week,
mdi.market_year, mdi.market_season, p.product_name,
pc.product_category_name
```

Farmers' market business cases demo

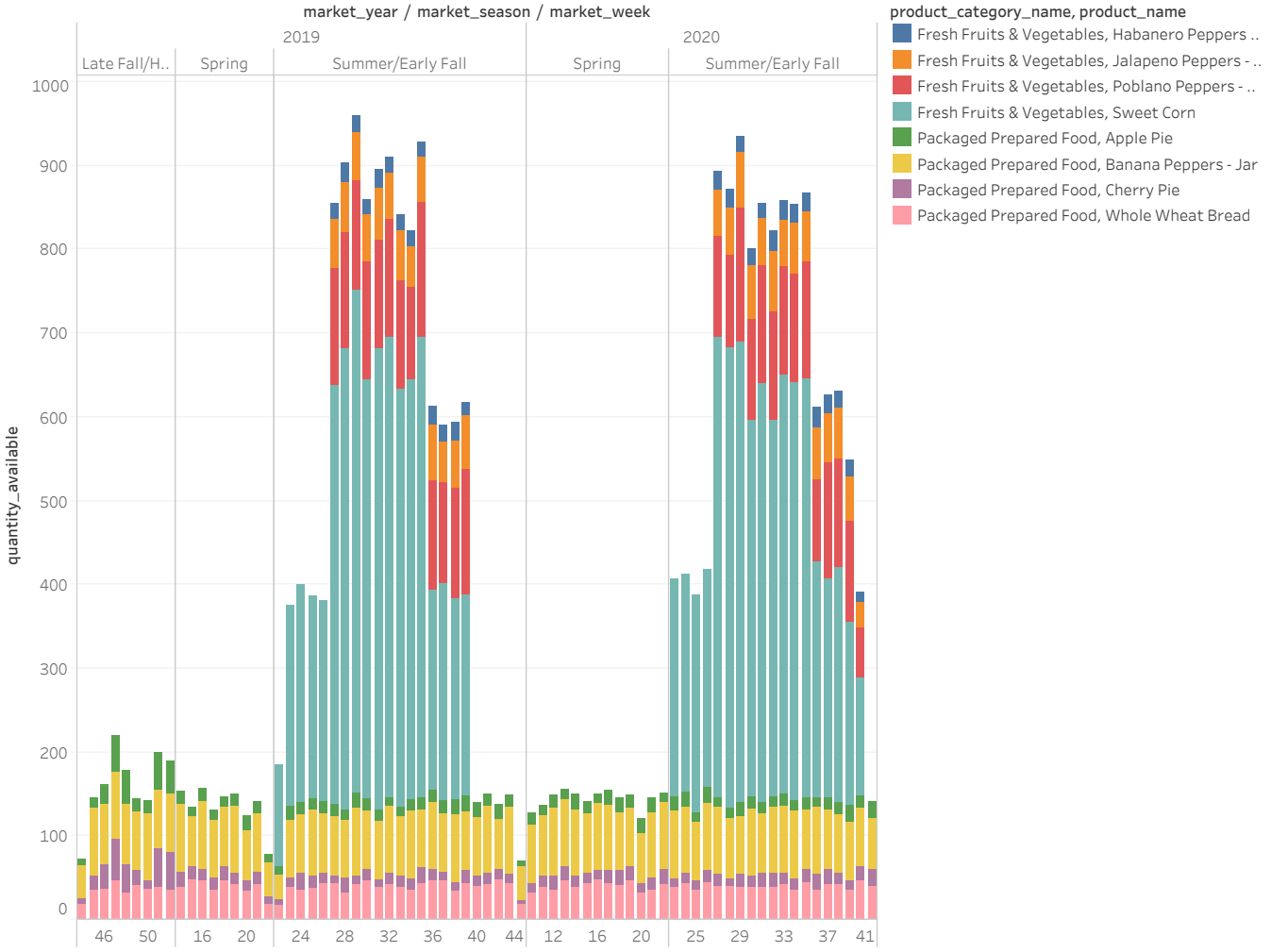
Sales per vendor per month/year.	Sales per vendor per week/market	Business question 2: when are certain products in season (m..	SQL Query 2 sample output to csv.	Product Seasonality (quantity available per season).	Business question 3: what percentage of each vendor's invento..	SQL Query 3 sample output to csv.

	A	B	C	D	E	F	G	H
1		market_day	market_week	market_year	market_season	quantity_available	product_name	product_category_name
2	2019-07-03 00:00:00	Wednesday	27	2019	Summer/Early Fall	7.38	Habanero Peppers - Organic	Fresh Fruits & Vegetables
3	2019-07-06 00:00:00	Saturday	27	2019	Summer/Early Fall	10.96	Habanero Peppers - Organic	Fresh Fruits & Vegetables
4	2019-07-10 00:00:00	Wednesday	28	2019	Summer/Early Fall	13.08	Habanero Peppers - Organic	Fresh Fruits & Vegetables
5	2019-07-13 00:00:00	Saturday	28	2019	Summer/Early Fall	10.22	Habanero Peppers - Organic	Fresh Fruits & Vegetables
6	2019-07-17 00:00:00	Wednesday	29	2019	Summer/Early Fall	10.59	Habanero Peppers - Organic	Fresh Fruits & Vegetables
7	2019-07-20 00:00:00	Saturday	29	2019	Summer/Early Fall	9.04	Habanero Peppers - Organic	Fresh Fruits & Vegetables
8	2019-07-24 00:00:00	Wednesday	30	2019	Summer/Early Fall	10.66	Habanero Peppers - Organic	Fresh Fruits & Vegetables
9	2019-07-27 00:00:00	Saturday	30	2019	Summer/Early Fall	6.76	Habanero Peppers - Organic	Fresh Fruits & Vegetables
10	2019-07-31 00:00:00	Wednesday	31	2019	Summer/Early Fall	11.23	Habanero Peppers - Organic	Fresh Fruits & Vegetables
11	2019-08-03 00:00:00	Saturday	31	2019	Summer/Early Fall	10.72	Habanero Peppers - Organic	Fresh Fruits & Vegetables
12	2019-08-07 00:00:00	Wednesday	32	2019	Summer/Early Fall	6.98	Habanero Peppers - Organic	Fresh Fruits & Vegetables
13	2019-08-10 00:00:00	Saturday	32	2019	Summer/Early Fall	10.73	Habanero Peppers - Organic	Fresh Fruits & Vegetables
14	2019-08-14 00:00:00	Wednesday	33	2019	Summer/Early Fall	10.63	Habanero Peppers - Organic	Fresh Fruits & Vegetables
15	2019-08-17 00:00:00	Saturday	33	2019	Summer/Early Fall	7.88	Habanero Peppers - Organic	Fresh Fruits & Vegetables
16	2019-08-21 00:00:00	Wednesday	34	2019	Summer/Early Fall	7.84	Habanero Peppers - Organic	Fresh Fruits & Vegetables
17	2019-08-24 00:00:00	Saturday	34	2019	Summer/Early Fall	10.58	Habanero Peppers - Organic	Fresh Fruits & Vegetables
18	2019-08-28 00:00:00	Wednesday	35	2019	Summer/Early Fall	9.34	Habanero Peppers - Organic	Fresh Fruits & Vegetables
19	2019-08-31 00:00:00	Saturday	35	2019	Summer/Early Fall	7.4	Habanero Peppers - Organic	Fresh Fruits & Vegetables
20	2019-09-04 00:00:00	Wednesday	36	2019	Summer/Early Fall	10.13	Habanero Peppers - Organic	Fresh Fruits & Vegetables
21	2019-09-07 00:00:00	Saturday	36	2019	Summer/Early Fall	11.44	Habanero Peppers - Organic	Fresh Fruits & Vegetables

Farmers' market business cases demo

Sales per vendor per week/market	Business question 2: when are certain products in season (m..	SQL Query 2 sample output to csv.	Product Seasonality (quantity available per season).	Business question 3: what percentage of each vendor's invento..	SQL Query 3 sample output to csv.	Percentage of inventory sold by vendor.

When are certain products in season (most available forsale)?



Farmers' market business cases demo

Business question 2: when are certain prod..	SQL Query 2 sample output to csv.	Product Seasonality (quantity available per season).	Business question 3: what percentage of each vendor's invento..	SQL Query 3 sample output to csv.	Percentage of inventory sold by vendor.	Business question 4: did the prices of any products chan..

```
/* what percentage of each vendor's inventory is selling per time period? */

WITH sales_per_product_per_vendor AS(
SELECT
 vi.market_date,
 vi.vendor_id,
 vi.product_id,
 AVG(vi.quantity) AS quantity_available,
 COALESCE(ROUND(SUM(cp.quantity),2),0) AS quantity_sold

FROM farmers_market.vendor_inventory vi
LEFT JOIN farmers_market.customer_purchases cp ON cp.market_date = vi.market_date AND
vi.product_id = cp.product_id AND vi.vendor_id = cp.vendor_id
GROUP BY vi.market_date, vi.vendor_id, vi.product_id)

SELECT
 spppv.vendor_id,
 spppv.market_date,
 mdi.market_year,
 MONTH(spppv.market_date) AS market_month,
 mdi.market_week,
 mdi.market_day,
 ROUND(SUM(spppv.quantity_available),2) AS quantity_available,
 ROUND(SUM(spppv.quantity_sold),2) AS quantity_sold,
 ROUND((SUM(spppv.quantity_sold)/SUM(spppv.quantity_available))*100) AS percentage_sold

FROM sales_per_product_per_vendor spppv
INNER JOIN farmers_market.market_date_info mdi ON spppv.market_date = mdi.market_date
GROUP BY spppv.vendor_id, spppv.market_date, mdi.market_year, mdi.market_week,
mdi.market_day
```

Farmers' market business cases demo

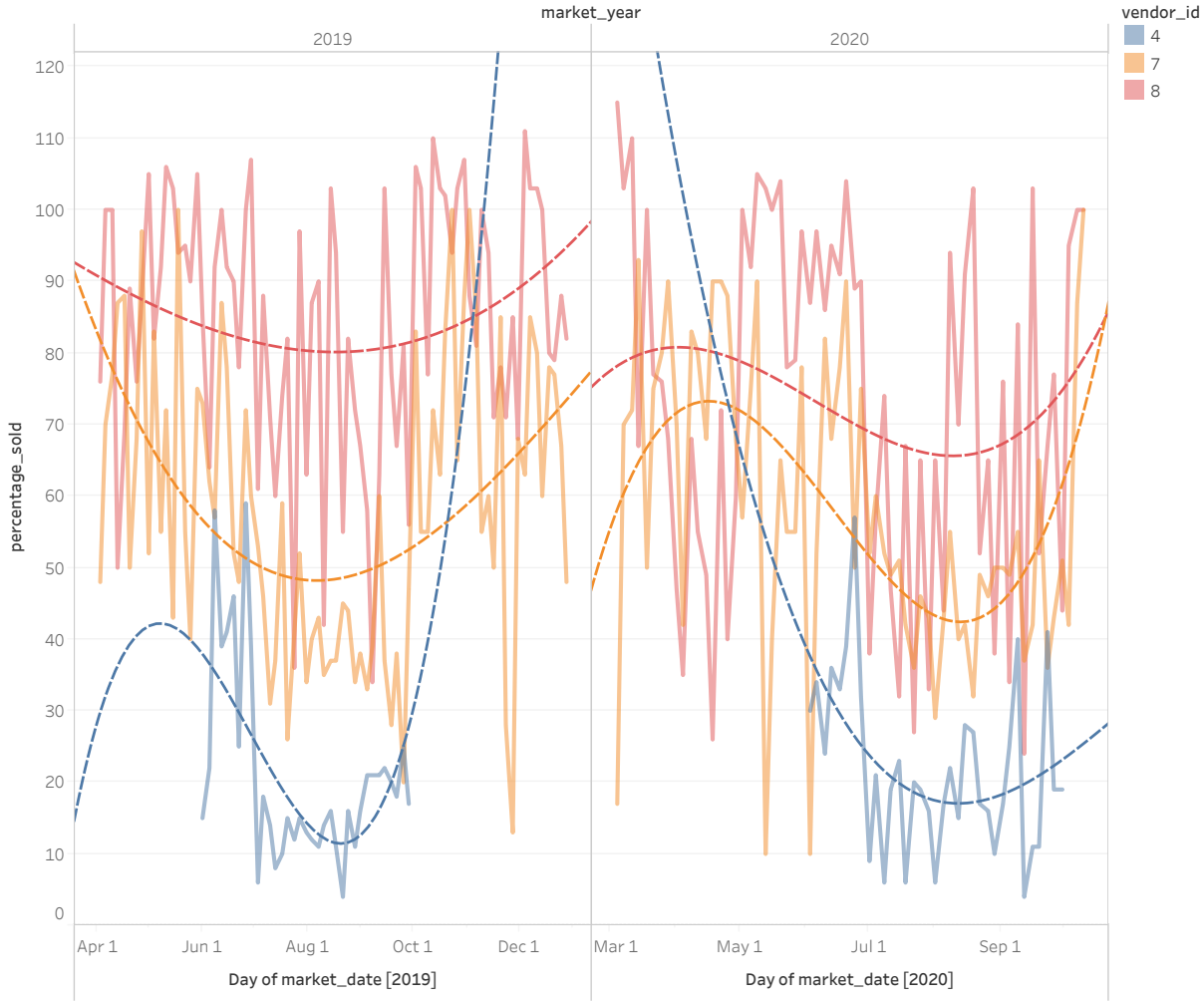
SQL Query 2 sample output to csv.	Product Seasonality (quantity available per season).	Business question 3: what percentage of each vendor's invento..	SQL Query 3 sample output to csv.	Percentage of inventory sold by vendor.	Business question 4: did the prices of any products change over ..	SQL Query 4 sample output to csv.

	A	B	C	D	E	F	G	H	I
1	vendor_id	market_date	market_year	market_month	market_week	market_day	quantity_available	quantity_sold	percentage_sold
2	7	2019-04-03 00:00:00	2019	4	14	Wednesday	40	19	48
3	8	2019-04-03 00:00:00	2019	4	14	Wednesday	34	26	76
4	7	2019-04-06 00:00:00	2019	4	14	Saturday	40	28	70
5	8	2019-04-06 00:00:00	2019	4	14	Saturday	39	39	100
6	7	2019-04-10 00:00:00	2019	4	15	Wednesday	30	23	77
7	8	2019-04-10 00:00:00	2019	4	15	Wednesday	37	37	100
8	7	2019-04-13 00:00:00	2019	4	15	Saturday	30	26	87
9	8	2019-04-13 00:00:00	2019	4	15	Saturday	38	19	50
10	7	2019-04-17 00:00:00	2019	4	16	Wednesday	40	35	88
11	8	2019-04-17 00:00:00	2019	4	16	Wednesday	39	27	69
12	7	2019-04-20 00:00:00	2019	4	16	Saturday	40	20	50
13	8	2019-04-20 00:00:00	2019	4	16	Saturday	37	33	89
14	7	2019-04-24 00:00:00	2019	4	17	Wednesday	40	27	68
15	8	2019-04-24 00:00:00	2019	4	17	Wednesday	29	22	76
16	7	2019-04-27 00:00:00	2019	4	17	Saturday	30	29	97
17	8	2019-04-27 00:00:00	2019	4	17	Saturday	32	28	88
18	7	2019-05-01 00:00:00	2019	5	18	Wednesday	40	21	52
19	8	2019-05-01 00:00:00	2019	5	18	Wednesday	39	41	105
20	7	2019-05-04 00:00:00	2019	5	18	Saturday	30	25	83
21	8	2019-05-04 00:00:00	2019	5	18	Saturday	38	31	82

Farmers' market business cases demo

Product Seasonality (quantity availa..	Business question 3: what percentage of each vendor's invento..	SQL Query 3 sample output to csv.	Percentage of inventory sold by vendor.	Business question 4: did the prices of any products change over ..	SQL Query 4 sample output to csv.	Prices changes per product over time.

What percentage of each vendor's inventory is selling per time period?



Farmers' market business cases demo


```
/* did the prices of any products change over time? */

SELECT
 market_date,
 vendor_id,
 product_id,
 transaction_time,
 cost_to_customer_per_qty,
 LAG(cost_to_customer_per_qty, 1) OVER (PARTITION BY vendor_id, product_id ORDER BY
vendor_id,
 product_id, market_date, transaction_time) AS former_price,
 CASE WHEN cost_to_customer_per_qty != LAG(cost_to_customer_per_qty, 1) OVER (PARTITION
BY vendor_id, product_id ORDER BY vendor_id, product_id, market_date, transaction_time) THEN 1
ELSE 0 END AS price_change_flag,
 CASE WHEN cost_to_customer_per_qty != LAG(cost_to_customer_per_qty, 1) OVER (PARTITION
BY vendor_id, product_id ORDER BY vendor_id, product_id, market_date, transaction_time)
THEN ROUND(((cost_to_customer_per_qty - LAG(cost_to_customer_per_qty, 1) OVER (PARTITION
BY vendor_id, product_id ORDER BY vendor_id,   product_id, market_date,
transaction_time))/cost_to_customer_per_qty)*100, 2)
ELSE 0 END AS price_change_pct

FROM farmers_market.customer_purchases
```

Farmers' market business cases demo

	A	B	C	D	E	F	G	H
1	market_date	vendor_id	product_id	transaction_time	cost_to_customer_per_qty	former_price	price_change_flag	price_change_pct
2	2019-06-01	4	16	1900-01-01 12:34:00	0.5	NULL	0	0
3	2019-06-01	4	16	1900-01-01 12:41:00	0.5	0.5	0	0
4	2019-06-01	4	16	1900-01-01 12:54:00	0.5	0.5	0	0
5	2019-06-01	4	16	1900-01-01 13:12:00	0.45	0.5	1	-11.11
6	2019-06-05	4	16	1900-01-01 17:23:00	0.5	0.45	1	10
7	2019-06-05	4	16	1900-01-01 17:56:00	0.5	0.5	0	0
8	2019-06-05	4	16	1900-01-01 17:59:00	0.5	0.5	0	0
9	2019-06-05	4	16	1900-01-01 18:09:00	0.5	0.5	0	0
10	2019-06-05	4	16	1900-01-01 18:15:00	0.5	0.5	0	0
11	2019-06-05	4	16	1900-01-01 18:32:00	0.5	0.5	0	0
12	2019-06-05	4	16	1900-01-01 18:38:00	0.5	0.5	0	0
13	2019-06-05	4	16	1900-01-01 18:44:00	0.5	0.5	0	0
14	2019-06-08	4	16	1900-01-01 08:46:00	0.5	0.5	0	0
15	2019-06-08	4	16	1900-01-01 09:20:00	0.5	0.5	0	0
16	2019-06-08	4	16	1900-01-01 09:52:00	0.5	0.5	0	0
17	2019-06-08	4	16	1900-01-01 10:10:00	0.4	0.5	1	-25
18	2019-06-08	4	16	1900-01-01 10:37:00	0.5	0.4	1	20
19	2019-06-08	4	16	1900-01-01 10:57:00	0.5	0.5	0	0
20	2019-06-08	4	16	1900-01-01 11:07:00	0.5	0.5	0	0
21	2019-06-08	4	16	1900-01-01 11:10:00	0.5	0.5	0	0

Farmers' market business cases demo

Percentage of inventory sold by vendor.	Business question 4: did the prices of any products change over ..	SQL Query 4 sample output to csv.	Prices changes per product over time.	Business question 5: what are the total sales per vendor for t..	SQL Query 5 sample output to csv.	Total sales per vendor per season.

Did the prices of any products change over time?

Farmers' market business cases demo


```
/* what are the total sales per vendor for the season? */

SELECT
 mdi.market_date,
 mdi.market_day,
 mdi.market_week,
 MONTH(cp.market_date) AS market_month,
 mdi.market_year,
 mdi.market_season,
 cp.vendor_id,
 ROUND(SUM(cp.quantity * cp.cost_to_customer_per_qty),2) AS total_sales

FROM farmers_market.customer_purchases cp
INNER JOIN farmers_market.market_date_info mdi ON cp.market_date =
mdi.market_date
GROUP BY mdi.market_date, mdi.market_day, mdi.market_week,
mdi.market_year, mdi.market_season, cp.vendor_id
```

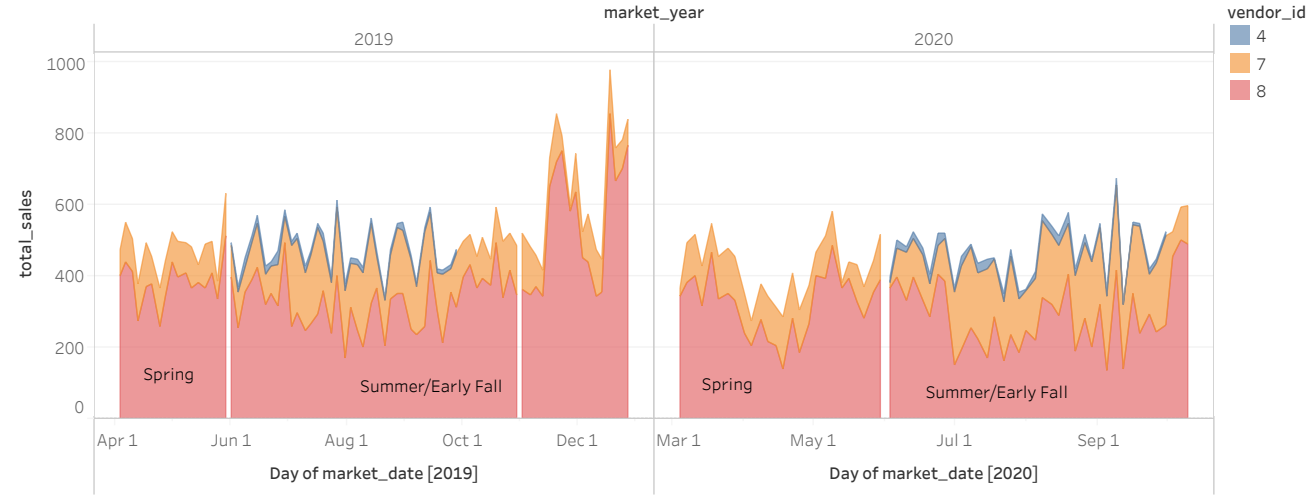
Farmers' market business cases demo

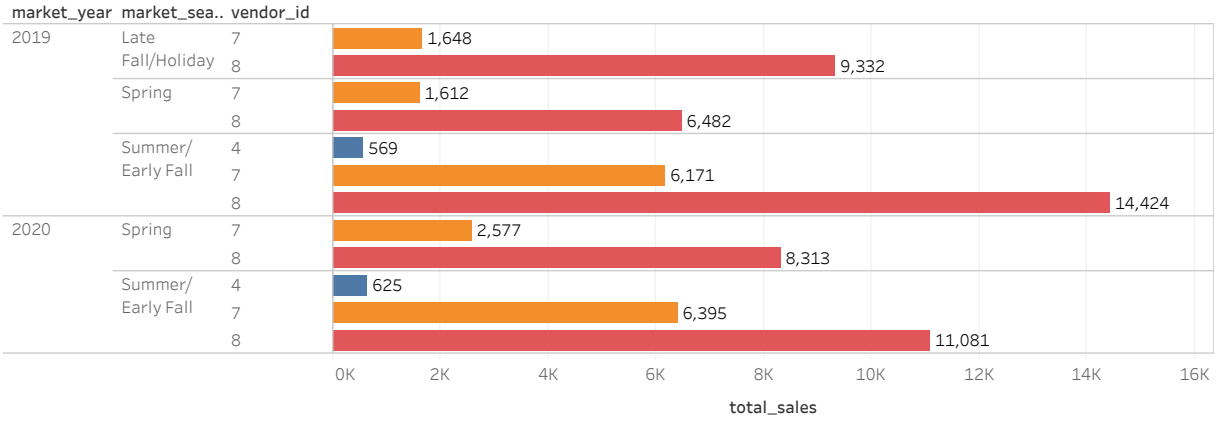
	A	B	C	D	E	F	G	H
1	market_date	market_day	market_week	market_month	market_year	market_season	vendor_id	total_sales
2	2019-07-03	Wednesday	27	7	2019	Summer/Early Fall	7	227.67
3	2019-07-06	Saturday	27	7	2019	Summer/Early Fall	7	205.51
4	2019-07-10	Wednesday	28	7	2019	Summer/Early Fall	7	160.02
5	2019-07-13	Saturday	28	7	2019	Summer/Early Fall	7	192.38
6	2019-07-17	Wednesday	29	7	2019	Summer/Early Fall	7	241.87
7	2019-07-20	Saturday	29	7	2019	Summer/Early Fall	7	138.8
8	2019-07-24	Wednesday	30	7	2019	Summer/Early Fall	7	140.94
9	2019-07-27	Saturday	30	7	2019	Summer/Early Fall	7	193.9
10	2019-07-31	Wednesday	31	7	2019	Summer/Early Fall	7	190.23
11	2019-08-03	Saturday	31	8	2019	Summer/Early Fall	7	119.89
12	2019-08-07	Wednesday	32	8	2019	Summer/Early Fall	7	185.31
13	2019-08-10	Saturday	32	8	2019	Summer/Early Fall	7	207.17
14	2019-08-14	Wednesday	33	8	2019	Summer/Early Fall	7	224.97
15	2019-08-21	Wednesday	34	8	2019	Summer/Early Fall	7	128.91
16	2019-08-24	Saturday	34	8	2019	Summer/Early Fall	7	120.04
17	2019-08-28	Wednesday	35	8	2019	Summer/Early Fall	7	185.05
18	2019-08-31	Saturday	35	8	2019	Summer/Early Fall	7	177.14
19	2019-09-04	Wednesday	36	9	2019	Summer/Early Fall	7	194.09
20	2019-09-07	Saturday	36	9	2019	Summer/Early Fall	7	135.35
21	2019-09-11	Wednesday	37	9	2019	Summer/Early Fall	7	263.69

Farmers' market business cases demo

Prices changes per product over time.	Business question 5: what are the total sales per vendor for t..	SQL Query 5 sample output to csv.	Total sales per vendor per season.	Business question 6: how frequently do vendors discount thei..	SQL Query 6 output sample to csv.	Discount counts per market vendor

What are the total sales per vendor for the season?





Farmers' market business cases demo


```
/* how frequently do vendors discount their product prices? */

SELECT
 cp.market_date,
 mdi.market_week,
 mdi.market_day,
 mdi.market_year,
 mdi.market_season,
 cp.vendor_id,
 COUNT(CASE WHEN cp.cost_to_customer_per_qty != vi.original_price THEN 1 ELSE 0
END) AS discount_count

FROM farmers_market.customer_purchases cp
JOIN farmers_market.vendor_inventory vi ON vi.market_date = cp.market_date AND
cp.vendor_id = vi.vendor_id AND cp.product_id = vi.product_id
JOIN farmers_market.market_date_info mdi ON mdi.market_date = cp.market_date
GROUP BY cp.market_date, cp.vendor_id,  mdi.market_week, mdi.market_day,
mdi.market_year, mdi.market_season
```

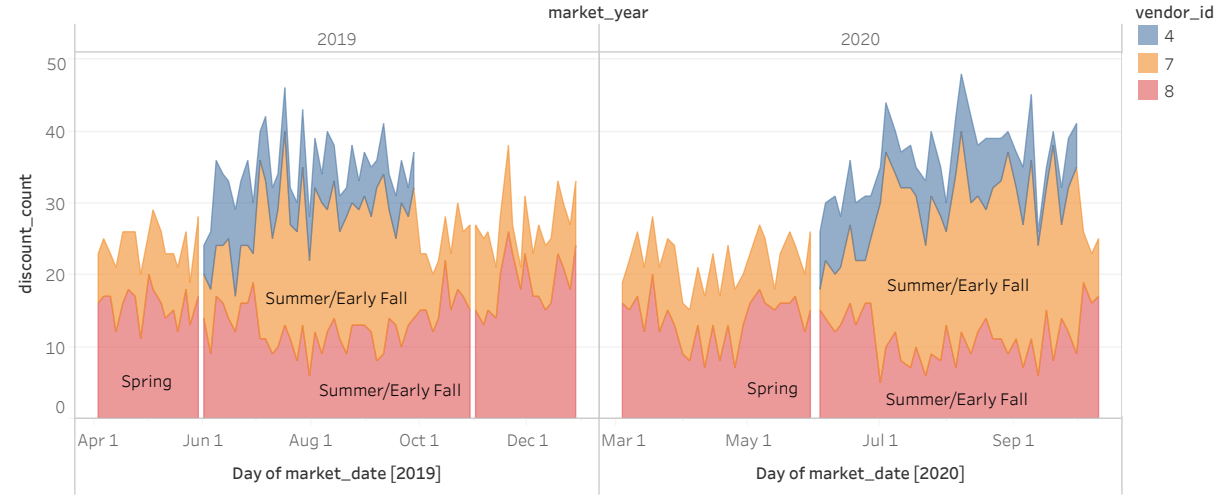
Farmers' market business cases demo

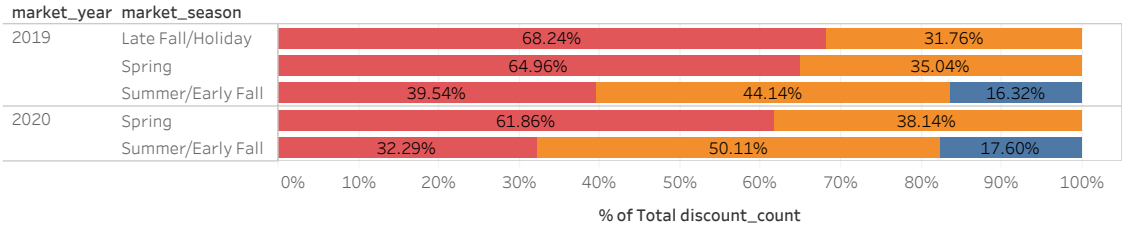
	A	B	C	D	E	F	G
1	market_date	market_week	market_day	market_year	market_season	vendor_id	discount_count
2	2019-07-03	27	Wednesday	2019	Summer/Early Fall	7	25
3	2019-07-06	27	Saturday	2019	Summer/Early Fall	7	22
4	2019-07-10	28	Wednesday	2019	Summer/Early Fall	7	16
5	2019-07-13	28	Saturday	2019	Summer/Early Fall	7	19
6	2019-07-17	29	Wednesday	2019	Summer/Early Fall	7	27
7	2019-07-20	29	Saturday	2019	Summer/Early Fall	7	16
8	2019-07-24	30	Wednesday	2019	Summer/Early Fall	7	18
9	2019-07-27	30	Saturday	2019	Summer/Early Fall	7	22
10	2019-07-31	31	Wednesday	2019	Summer/Early Fall	7	16
11	2019-08-03	31	Saturday	2019	Summer/Early Fall	7	20
12	2019-08-07	32	Wednesday	2019	Summer/Early Fall	7	21
13	2019-08-10	32	Saturday	2019	Summer/Early Fall	7	17
14	2019-08-14	33	Wednesday	2019	Summer/Early Fall	7	19
15	2019-08-21	34	Wednesday	2019	Summer/Early Fall	7	19
16	2019-08-24	34	Saturday	2019	Summer/Early Fall	7	17
17	2019-08-28	35	Wednesday	2019	Summer/Early Fall	7	16
18	2019-08-31	35	Saturday	2019	Summer/Early Fall	7	18
19	2019-09-04	36	Wednesday	2019	Summer/Early Fall	7	16
20	2019-09-07	36	Saturday	2019	Summer/Early Fall	7	24
21	2019-09-11	37	Wednesday	2019	Summer/Early Fall	7	25

Farmers' market business cases demo

Total sales per vendor per season.	Business question 6: how frequently do vendors discount thei..	SQL Query 6 output sample to csv.	Discount counts per market vendor	Business question 7: which vendor sold the most corn last week?	SQL Query 7 output sample to csv.	Last week's corn sales by vendor 4 (only one who sells..

How frequently do vendors discount their product prices?





Farmers' market business cases demo


```
/* which vendor sold the most corn last week? */

SELECT
 p.product_name,
 cp.vendor_id,
 cp.product_id,
 SUM(cp.quantity*cp.cost_to_customer_per_qty)

FROM farmers_market.customer_purchases cp
JOIN farmers_market.product p ON p.product_id = cp.product_id
WHERE p.product_name LIKE '%corn%'
GROUP BY cp.vendor_id, p.product_name, cp.product_id
```

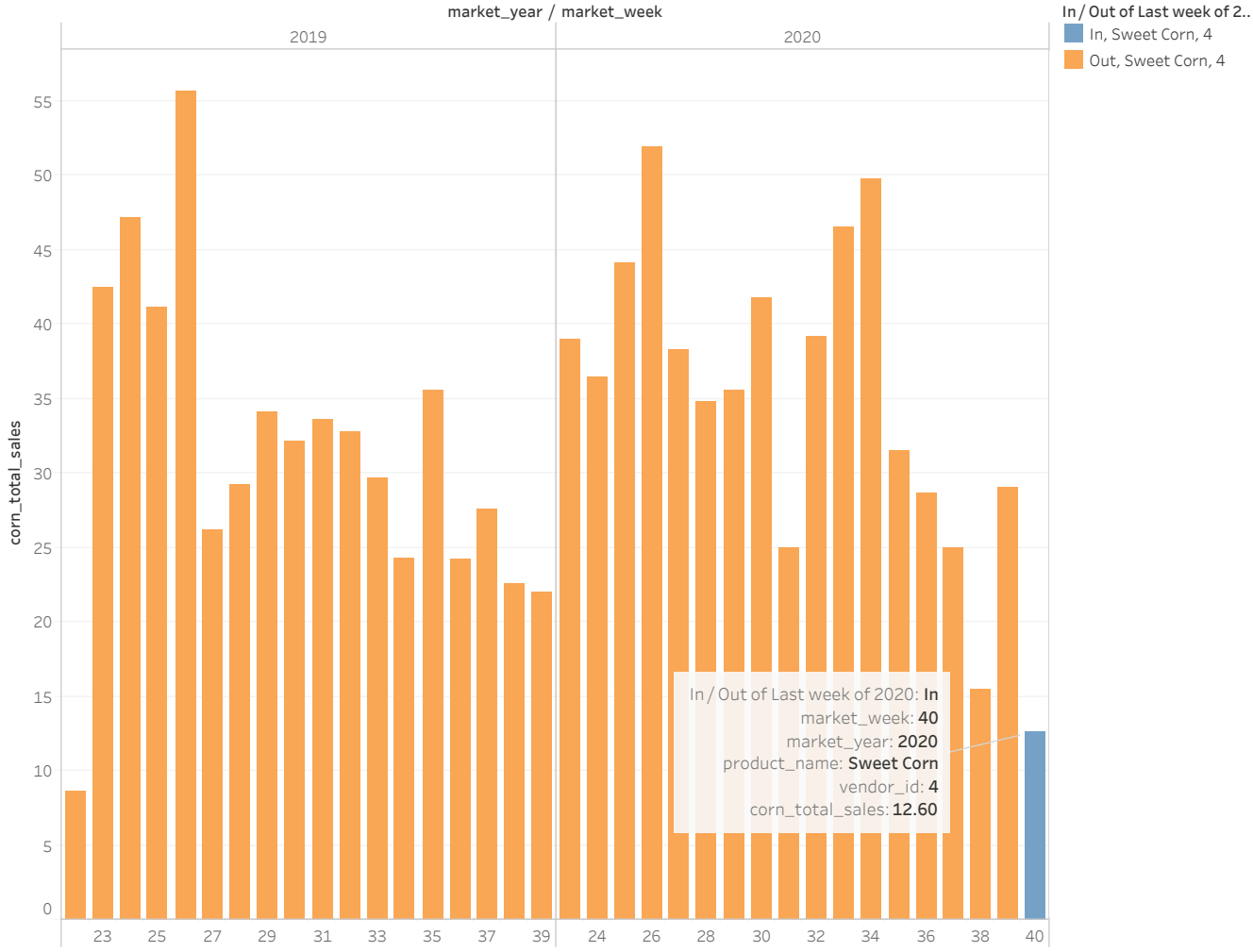
Farmers' market business cases demo

	A	B	C	D	E	F
1	market_year	market_week	product_name	vendor_id	product_id	corn_total_sales
2	2019	22	Sweet Corn	4	16	8.6
3	2019	23	Sweet Corn	4	16	42.5
4	2019	24	Sweet Corn	4	16	47.2
5	2019	25	Sweet Corn	4	16	41.2
6	2019	26	Sweet Corn	4	16	55.7
7	2019	27	Sweet Corn	4	16	26.2
8	2019	28	Sweet Corn	4	16	29.2
9	2019	29	Sweet Corn	4	16	34.1
10	2019	30	Sweet Corn	4	16	32.1
11	2019	31	Sweet Corn	4	16	33.6
12	2019	32	Sweet Corn	4	16	32.8
13	2019	33	Sweet Corn	4	16	29.7
14	2019	34	Sweet Corn	4	16	24.3
15	2019	35	Sweet Corn	4	16	35.6
16	2019	36	Sweet Corn	4	16	24.2
17	2019	37	Sweet Corn	4	16	27.6
18	2019	38	Sweet Corn	4	16	22.5
19	2019	39	Sweet Corn	4	16	22
20	2020	23	Sweet Corn	4	16	39
21	2020	24	Sweet Corn	4	16	36.5

Farmers' market business cases demo

Discount counts per market vendor	Business question 7: which vendor sold the most corn last week?	SQL Query 7 output sample to csv.	Last week's corn sales by vendor 4 (only one who sells corn). Highli..	Business question 8: will this customer who just made a..	SQL Query 8 output sample to csv.	Returning customers in 14 days.

Which vendor sold the most corn last week?



Farmers' market business cases demo


```
/* will this customer who just made a
purchase return to make another purchase within the next 14 days? */

WITH customer_market_attended AS(
SELECT
 market_date,
 customer_id

FROM farmers_market.customer_purchases cp
ORDER BY customer_id, market_date )

SELECT
 cp.market_date,
 cp.customer_id,
 SUM(cp.quantity * cp.cost_to_customer_per_qty) AS total_sales,
 COUNT(DISTINCT cp.product_id) AS distinct_products_bought,
 COUNT(DISTINCT cp.vendor_id) AS distinct_vendors,
 COUNT(cp.product_id) AS number_items_bought,
 (SELECT MIN(cma.market_date) FROM customer_market_attended cma
WHERE cp.customer_id = cma.customer_id AND cp.market_date < cma.market_date
GROUP BY cma.customer_id) AS next_market_date,
 DATEDIFF( (SELECT MIN(cma.market_date) FROM customer_market_attended cma
WHERE cp.customer_id = cma.customer_id AND cp.market_date < cma.market_date
GROUP BY cma.customer_id), cp.market_date) AS days_until_next_market,
 CASE WHEN DATEDIFF( (SELECT MIN(cma.market_date) FROM customer_market_attended cma
WHERE cp.customer_id = cma.customer_id AND cp.market_date < cma.market_date
GROUP BY cma.customer_id), cp.market_date) <= 14 THEN 1 ELSE 0 END AS market_in_next_14_days,
 CASE WHEN DATEDIFF( (SELECT MIN(cma.market_date) FROM customer_market_attended cma
WHERE cp.customer_id = cma.customer_id AND cp.market_date < cma.market_date
GROUP BY cma.customer_id), cp.market_date) <= 7 THEN 1 ELSE 0 END AS market_in_next_7_days,

FROM farmers_market.customer_purchases cp
GROUP BY cp.market_date, cp.customer_id
ORDER BY cp.market_date, cp.customer_id
```

Farmers' market business cases demo

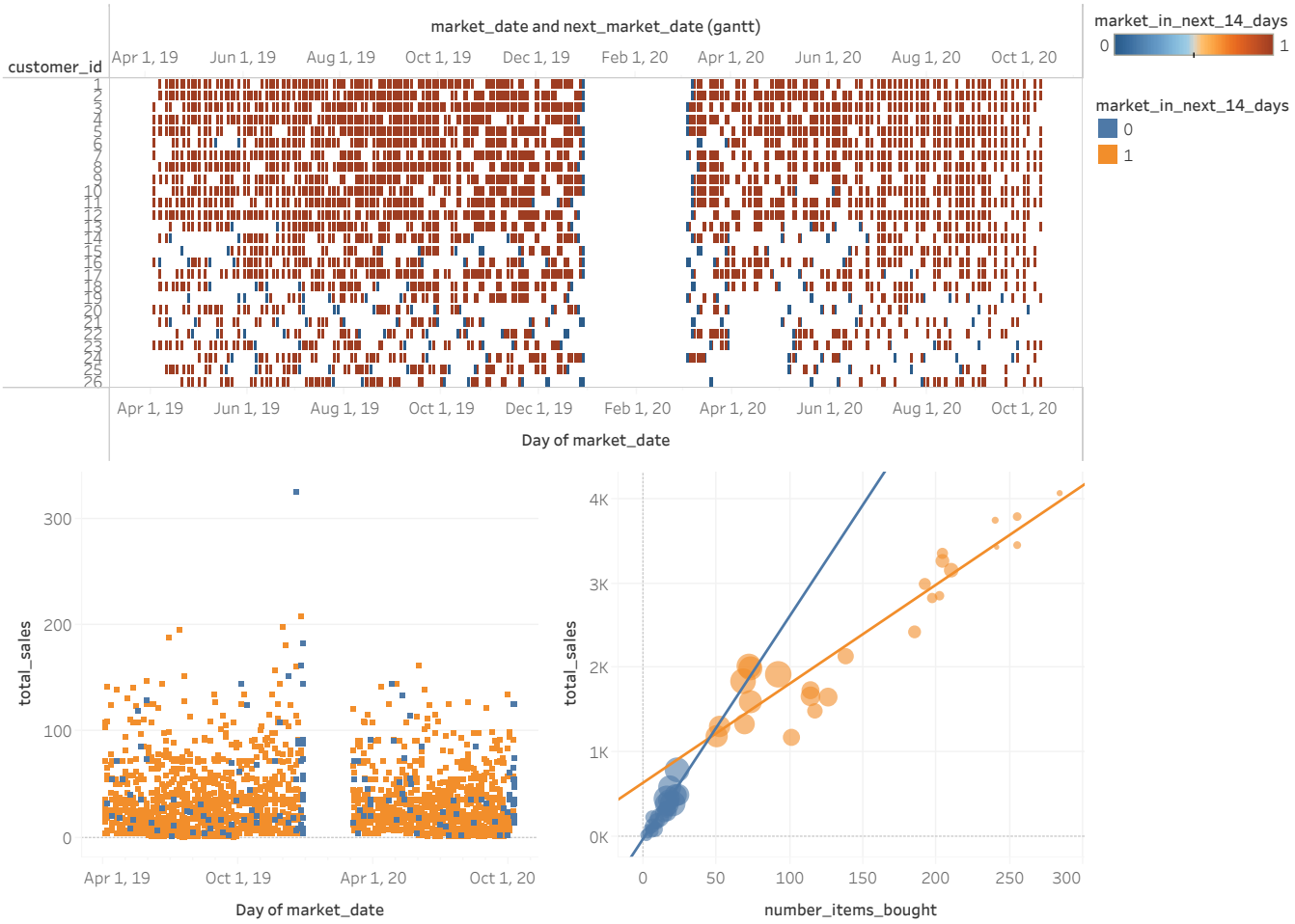
SQL Query 7 output sample to csv.	Last week's corn sales by vendor 4 (only one who sells corn). Highli..	Business question 8: will this customer who just made a..	SQL Query 8 output sample to csv.	Returning customers in 14 days.	Business question 9: what factors correlate with fresh produce sa..	SQL Query 9 output sample to csv.

	A	B	C	D	E	F	G	H	I	J
1	market_date	customer_id	total_sales	distinct_products_bought	distinct_vendors	number_items_bought	next_market_date	days_until_next_market	market_in_next_14_days	market_in_next_7_days
2	2019-04-03	3	4	1	1	1	2019-04-13	10	1	0
3	2019-04-03	4	4	1	1	1	2019-04-06	3	1	1
4	2019-04-03	5	30	2	2	2	2019-04-06	3	1	1
5	2019-04-03	6	22.5	2	2	2	2019-04-17	14	1	0
6	2019-04-03	7	20	1	1	1	2019-04-17	14	1	0
7	2019-04-03	9	103	3	1	5	2019-04-10	7	1	1
8	2019-04-03	10	72	2	1	2	2019-04-17	14	1	0
9	2019-04-03	11	36	1	1	1	2019-04-06	3	1	1
10	2019-04-03	12	25	2	2	2	2019-04-06	3	1	1
11	2019-04-03	16	14.5	2	2	2	2019-04-06	3	1	1
12	2019-04-03	20	36	1	1	1	2019-04-10	7	1	1
13	2019-04-03	23	108	2	1	3	2019-04-06	3	1	1
14	2019-04-06	1	6.5	1	1	1	2019-04-13	7	1	1
15	2019-04-06	2	26.5	2	2	2	2019-04-10	4	1	1
16	2019-04-06	4	6.5	1	1	1	2019-04-10	4	1	1
17	2019-04-06	5	4	1	1	1	2019-04-10	4	1	1
18	2019-04-06	8	18	1	1	1	2019-04-13	7	1	1
19	2019-04-06	11	6.5	1	1	1	2019-04-10	4	1	1
20	2019-04-06	12	66	2	2	3	2019-04-10	4	1	1
21	2019-04-06	14	142	3	2	5	2019-04-13	7	1	1

Farmers' market business cases demo

Last week's corn sales by vendor 4 (only one who s..	Business question 8: will this customer who just made a..	SQL Query 8 output sample to csv.	Returning customers in 14 days.	Business question 9: what factors correlate with fresh produce sa..	SQL Query 9 output sample to csv.	Relationship between rainfall and fresh sales/qu..

Will this customer who just made a purchase return to make another purchase within the next 14 days?



Farmers' market business cases demo


```
/* what factors correlate with fresh produce sales? */

SELECT
 mdi.market_year,
 mdi.market_week,
 mdi.market_season,
 COALESCE(ROUND(SUM(cp1.quantity*cp1.cost_to_customer_per_qty),2),0) AS total_fresh_sales,
 COALESCE(ROUND(SUM(cp1.quantity),2),0) AS total_fresh_quantity_sold,
 COALESCE(COUNT(cp1.product_id),0) AS total_fresh_items_sold,
 COALESCE(COUNT(DISTINCT cp1.product_id),0) AS distinct_fresh_items_bought,
 COALESCE(COUNT(DISTINCT cp1.customer_id),0) AS distinct_fresh_customers,
 COALESCE(COUNT(DISTINCT cp1.vendor_id),0) AS distinct_fresh_vendors,
 MAX(mdi.market_rain_flag),
 MAX(mdi.market_snow_flag)

FROM farmers_market.market_date_info mdi
LEFT JOIN (SELECT cp.product_id,
cp.vendor_id,
cp.market_date,
cp.customer_id,
cp.quantity,
cp.cost_to_customer_per_qty,
cp.transaction_time,
p.product_name,
p.product_category_id FROM farmers_market.customer_purchases cp
JOIN farmers_market.product p ON p.product_id = cp.product_id
WHERE p.product_category_id IN (1,5,6)) cp1 ON cp1.market_date = mdi.market_date
GROUP BY mdi.market_year, mdi.market_week, mdi.market_season
```

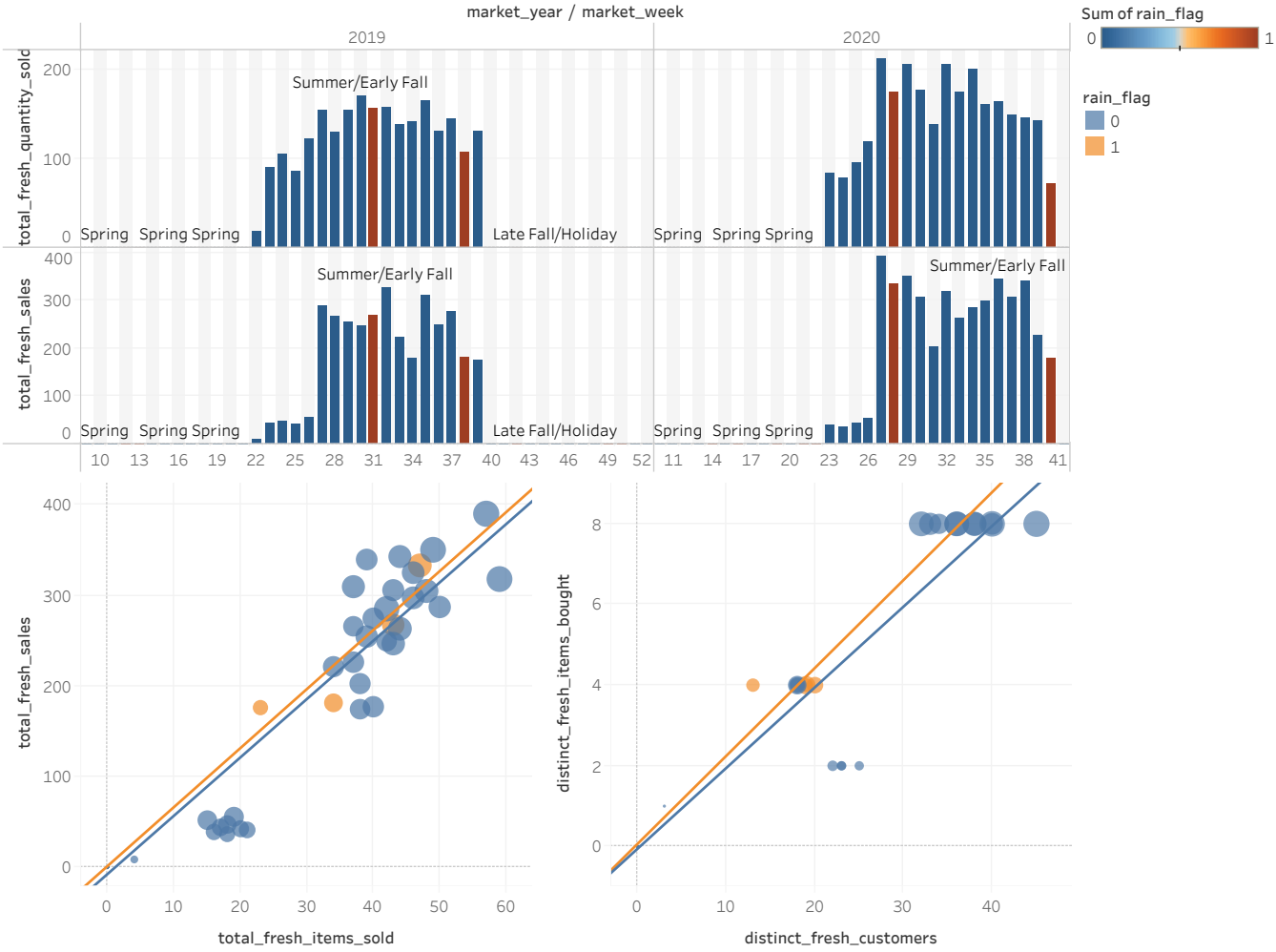
Farmers' market business cases demo

	A	B	C	D	E	F	G	H	I	J	K
1	market_year	market_week	market_season	total_fresh_sales	total_fresh_quantity_sold	total_fresh_items_sold	distinct_fresh_items_bought	distinct_fresh_customers	distinct_fresh_vendors	rain_flag	snow_flag
2	2019	9	Spring	0	0	0	0	0	0	0	0
3	2019	10	Spring	0	0	0	0	0	0	0	1
4	2019	11	Spring	0	0	0	0	0	0	0	0
5	2019	12	Spring	0	0	0	0	0	0	1	0
6	2019	13	Spring	0	0	0	0	0	0	1	0
7	2019	14	Spring	0	0	0	0	0	0	0	0
8	2019	15	Spring	0	0	0	0	0	0	0	0
9	2019	16	Spring	0	0	0	0	0	0	0	0
10	2019	17	Spring	0	0	0	0	0	0	0	0
11	2019	18	Spring	0	0	0	0	0	0	0	0
12	2019	19	Spring	0	0	0	0	0	0	0	0
13	2019	20	Spring	0	0	0	0	0	0	0	0
14	2019	21	Spring	0	0	0	0	0	0	0	0
15	2019	22	Spring	0	0	0	0	0	0	0	0
16	2019	22	Summer/Early Fall	8.6	18	4	1	3	1	0	0
17	2019	23	Summer/Early Fall	42.5	89	20	1	13	1	0	0
18	2019	24	Summer/Early Fall	47.2	104	18	1	12	1	0	0
19	2019	25	Summer/Early Fall	41.2	85	21	1	12	1	0	0
20	2019	26	Summer/Early Fall	55.7	122	19	1	12	1	0	0
21	2019	27	Summer/Early Fall	287.38	153.28	50	4	23	2	0	0

Farmers' market business cases demo

Returning customers in 14 days.	Business question 9: what factors correlate with fresh produce sa..	SQL Query 9 output sample to csv.	Relationship between rainfall and fresh sales/quantity sold.	Business question 10: how do sales vary by customer zip code, m..	SQL Query 10 output sample to csv.	Variation of market sales by distance and demographic d..

What factors correlate with fresh produce sales?



Farmers' market business cases demo


```
/* how do sales vary by customer zip code, market distance, and demographic data? */

SELECT
 c.customer_first_name,
 c.customer_last_name,
 c.customer_id,
 ROUND(2 * 3961 * ASIN(SQRT(POWER(SIN(RADIANS((zd.latitude - 38.4463) / 2)),2) +
COS(RADIANS(38.4463))
* COS(RADIANS(zd.latitude)) * POWER((SIN(RADIANS((zd.longitude - -78.8712) / 2))), 2))) * 1.6) AS
dist_kms_to_market,
 COUNT(c.customer_id) AS customer_market_transactions,
 COUNT(cp.market_date) AS number_of_markets,
 ROUND(SUM(cp.quantity),2) AS total_quantity_bought,
 ROUND(SUM(cp.quantity*cp.cost_to_customer_per_qty),2) AS total_customer_revenue,
 zd.median_household_income AS zip_median_household_income,
 zd.percent_high_income AS zip_percent_high_income,
 zd.percent_under_18 AS zip_percent_under_18,
 zd.percent_over_65 AS zip_percent_over_65,
 ROUND(zd.people_per_sq_mile * (1/2.59),2) AS zip_people_per_sq_km

FROM farmers_market.zip_data zd
JOIN farmers_market.customer c ON zd.zip_code_5 = c.customer_zip
JOIN farmers_market.customer_purchases cp ON cp.customer_id = c.customer_id
GROUP BY c.customer_id, c.customer_first_name, c.customer_last_name, `dist_kms_to_market`,
`zip_median_household_income`, `zip_percent_high_income`, `zip_percent_under_18`,
`zip_percent_over_65`, `zip_people_per_sq_km`
```

Farmers' market business cases demo

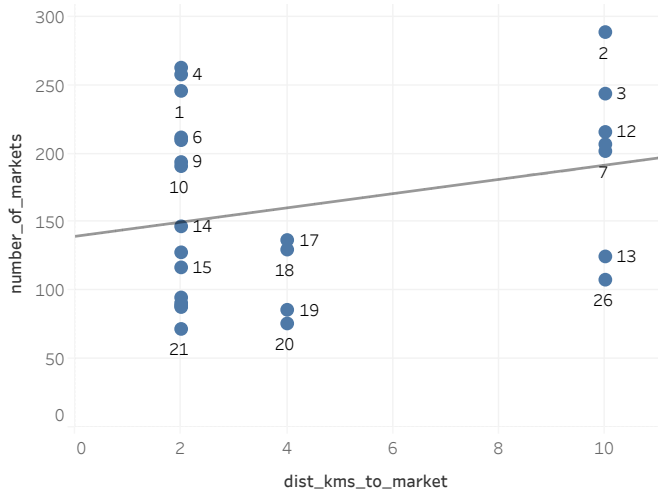
SQL Query 9 output sample to csv.	Relationship between rainfall and fresh sales/quantity sold.	Business question 10: how do sales vary by customer zip code, m..	SQL Query 10 output sample to csv.	Variation of market sales by distance and demographic data (on..	Business question 11: how does product price distribution affect ma..	SQL Query 11 output sample to csv.

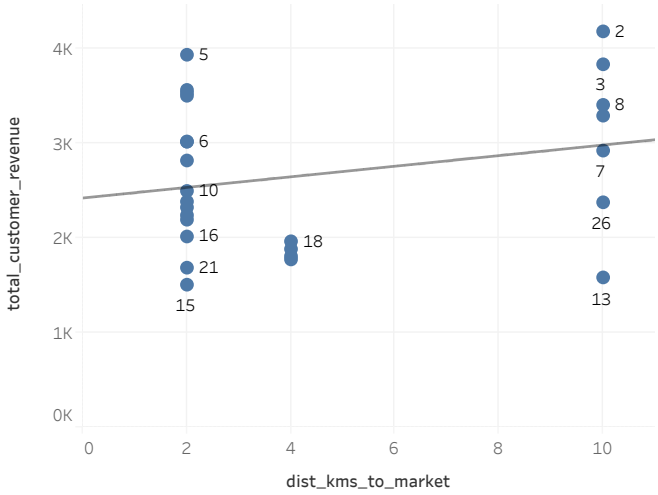
	A	B	C	D	E	F	G	H	I	J	K
1	customer_first_name	customer_last_name	customer_id	dist_kms_to_market	customer_market_transactions	number_of_markets	total_quantity_bought	total_customer_revenue	zip_median_household_income	zip_percent_high_income	zip_percent_under_
2	William	Lopes	14	2	147	147	387.12	2322.54	53042	0.05	0.16
3	Darrell	Messina	15	2	117	117	287.17	1506.35	53042	0.05	0.16
4	Ada	Nieves	16	2	128	128	369.36	2015	53042	0.05	0.16
5	George	Rai	22	2	91	91	263.16	2192.15	53042	0.05	0.16
6	Deanna	Washington	4	2	258	258	875.14	3561.63	53042	0.05	0.16
7	Jack	Wise	12	10	216	216	601.17	3290.08	65417	53	0.25
8	Alvin	Laurie	23	2	89	89	260.17	2383.58	53042	0.05	0.16
9	Bob	Wilson	3	10	244	244	694.75	3832.16	65417	53	0.25
10	Norma	Valenzuela	8	10	207	207	498.53	3403.68	65417	53	0.25
11	Manuel	Diaz	2	10	289	289	752.58	4179.45	65417	53	0.25
12	Abigail	Harris	5	2	263	263	660.29	3932.83	53042	0.05	0.16
13	Russell	Edwards	10	2	191	191	869.31	2495.41	53042	0.05	0.16
14	Dawn	Nale	24	2	95	95	279.14	2817.01	53042	0.05	0.16
15	Jane	Connor	1	2	246	246	741.13	3530.92	53042	0.05	0.16
16	Duane	Sipp	21	2	72	72	205.91	1685.82	53042	0.05	0.16
17	Iva	Kienzler	19	4	86	86	245.52	1772.93	48746	28	0.23
18	Jeremy	Gruber	13	10	125	125	298.2	1582.98	65417	53	0.25
19	Carlos	Diaz	17	4	137	137	376.75	1882.61	48746	28	0.23
20	Richard	Paulson	11	2	210	210	571.2	3499.99	53042	0.05	0.16
21	Bonnie	Hassan	25	2	88	88	281.4	2239.55	53042	0.05	0.16

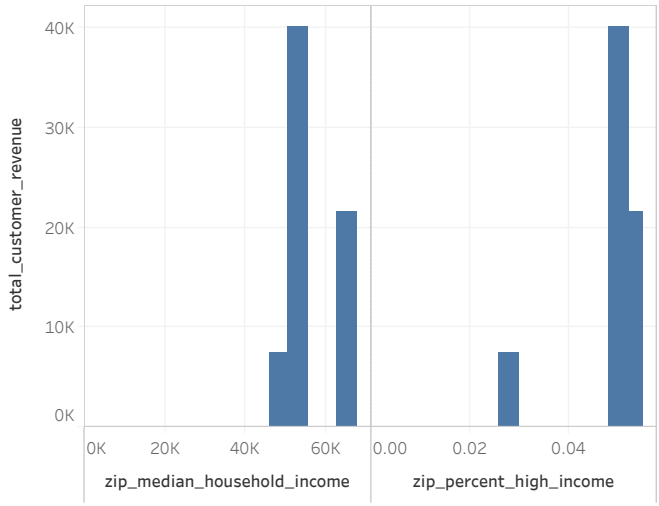
Farmers' market business cases demo

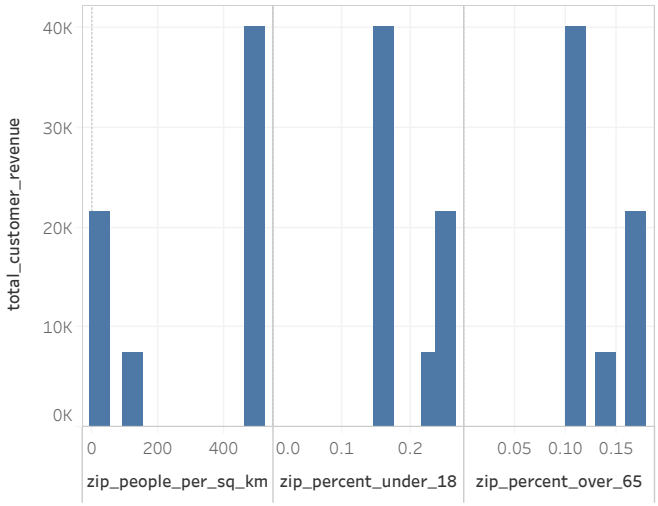
Relationship between rainfall and fresh sales/..	Business question 10: how do sales vary by customer zip code, m..	SQL Query 10 output sample to csv.	Variation of market sales by distance and demographic data (on..	Business question 11: how does product price distribution affect ma..	SQL Query 11 output sample to csv.	Price distribution in relation to total sales and quantity ..

How do sales vary by customer zip code, market distance, and demographic data?









Farmers' market business cases demo


```
/* how does product price distribution affect market sales? */

SELECT
 mdi.market_season,
 mdi.market_year,
 vi.original_price,
 NTILE(3) OVER (PARTITION BY market_year, market_season ORDER BY original_price) AS price_ntile,
 NTILE(3) OVER (PARTITION BY market_year, market_season ORDER BY original_price DESC) AS
price_ntile_desc,
 COUNT(DISTINCT CONCAT(vi.product_id, vi.vendor_id)) AS product_count,
 ROUND(SUM(cp.quantity),2) AS quantity_sold,
 ROUND(SUM(cp.quantity * cp.cost_to_customer_per_qty),2) AS total_sales

FROM farmers_market.product AS p
 LEFT JOIN farmers_market.vendor_inventory AS vi
 ON vi.product_id = p.product_id
 LEFT JOIN farmers_market.market_date_info AS mdi
 ON vi.market_date = mdi.market_date
 LEFT JOIN farmers_market.customer_purchases AS cp
 ON vi.product_id = cp.product_id
 AND vi.vendor_id = cp.vendor_id
 AND vi.market_date = cp.market_date
WHERE mdi.market_year IS NOT NULL
GROUP BY mdi.market_year, mdi.market_season, vi.original_price
```

Farmers' market business cases demo

	A	B	C	D	E	F	G	H
1	market_season	market_year	original_price	price_ntile	price_ntile_desc	product_count	quantity_sold	total_sales
2	Late Fall/Holiday	2019	18	3	1	2	422	7596
3	Late Fall/Holiday	2019	6.5	2	2	1	267	1735.5
4	Late Fall/Holiday	2019	4	1	3	1	412	1648
5	Spring	2019	18	3	1	2	259	4662
6	Spring	2019	6.5	2	2	1	280	1820
7	Spring	2019	4	1	3	1	411	1612
8	Summer/Early Fa	2019	18	3	1	2	559	10062
9	Summer/Early Fa	2019	6.99	3	1	1	175.18	1224.51
10	Summer/Early Fa	2019	6.5	2	2	1	671	4361.5
11	Summer/Early Fa	2019	4	2	2	1	829	3307.5
12	Summer/Early Fa	2019	3.49	1	3	1	397.91	1382.35
13	Summer/Early Fa	2019	0.5	1	3	2	1718	825.6
14	Spring	2020	18	3	1	2	330	5940
15	Spring	2020	6.5	2	2	1	365	2372.5
16	Spring	2020	4	1	3	1	661	2577
17	Summer/Early Fa	2020	18	3	1	2	439	7902
18	Summer/Early Fa	2020	6.99	3	1	1	226.11	1580.51
19	Summer/Early Fa	2020	6.5	2	2	1	489	3178.5
20	Summer/Early Fa	2020	4	2	2	1	697	2710.5
21	Summer/Early Fa	2020	3.49	1	3	1	520.89	1810.17

Farmers' market business cases demo

Relationship between rainfall and..	Business question 10: how do sales vary by customer zip code, m..	SQL Query 10 output sample to csv.	Variation of market sales by distance and demographic data (on..	Business question 11: how does product price distribution affect ma..	SQL Query 11 output sample to csv.	Price distribution in relation to total sales and quantity sold.