Navigation

Select an option

EDA

The Required Information

store_nbr

5

family

GROCERY I

Start Date

2017/08/16

End Date

2017/08/31

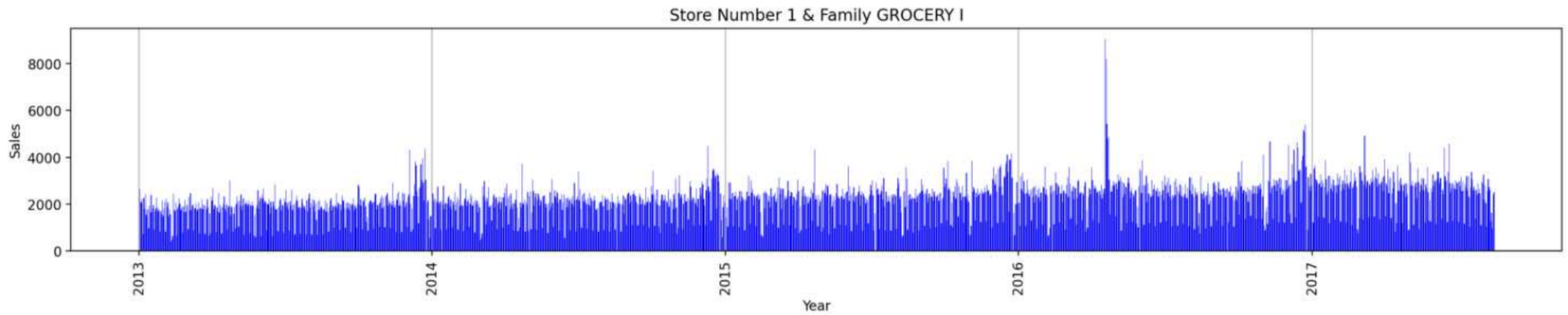
How many products are on promotion?

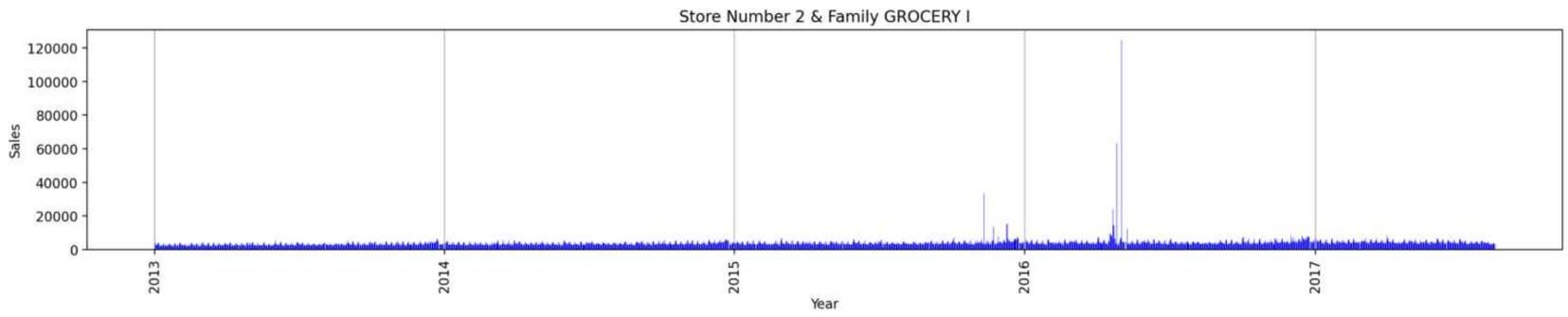
0

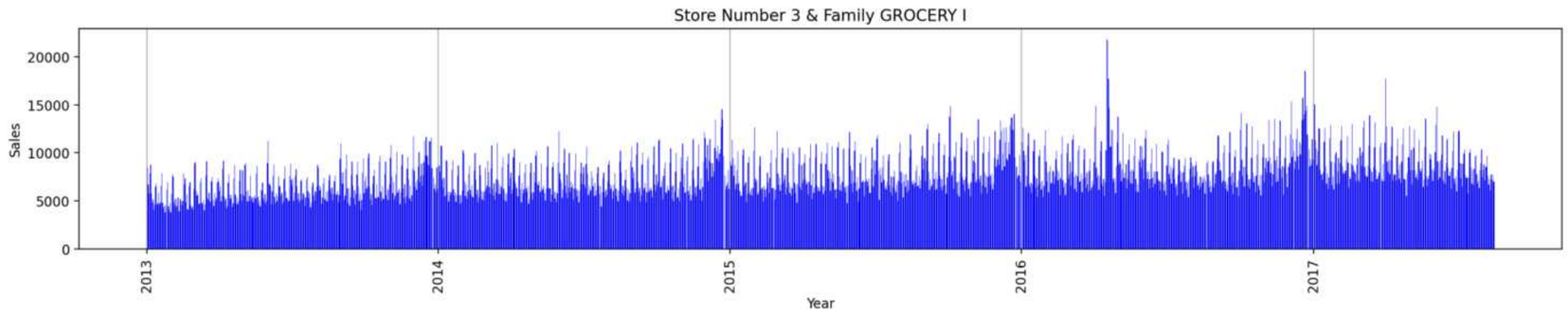
[kaggle] Store Sales Time Series Forecasting

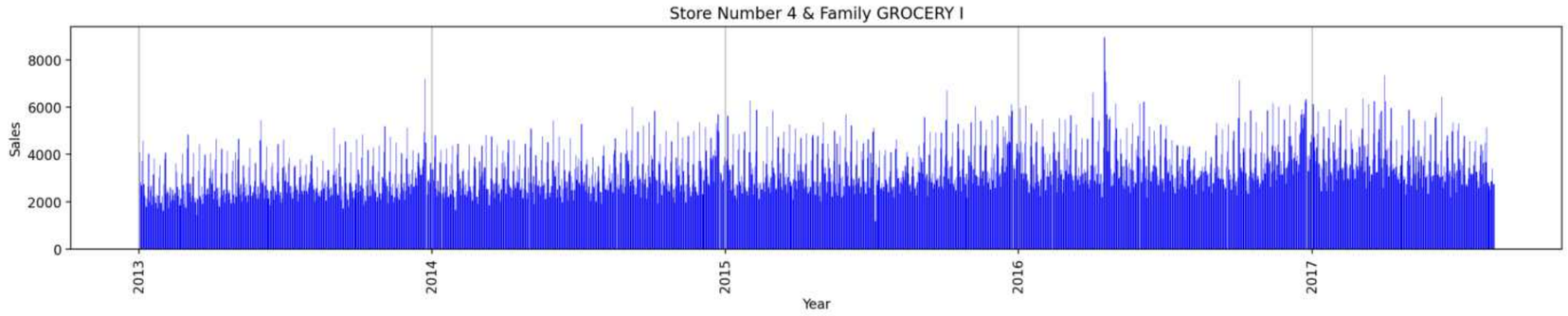
EDA start

Explore train.csv





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Sales
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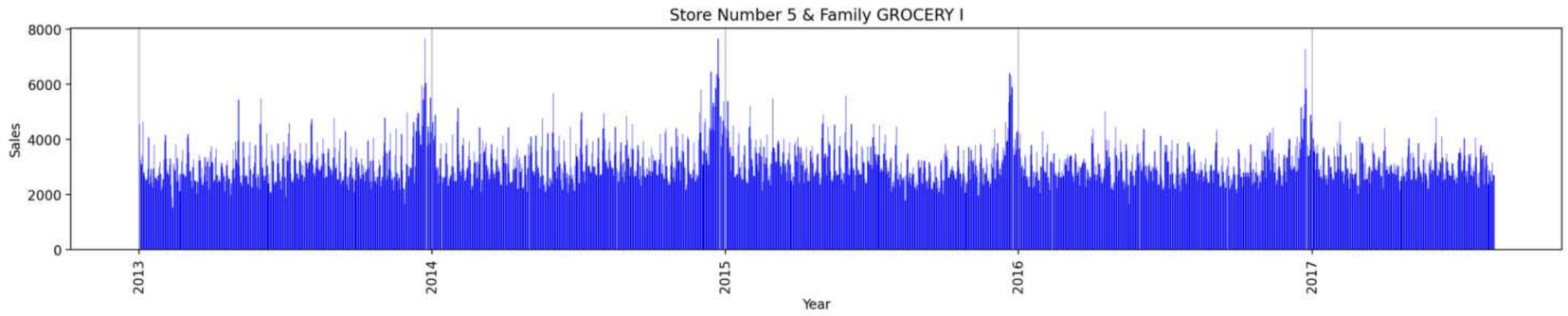
2015
2016
2017
Year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Sales
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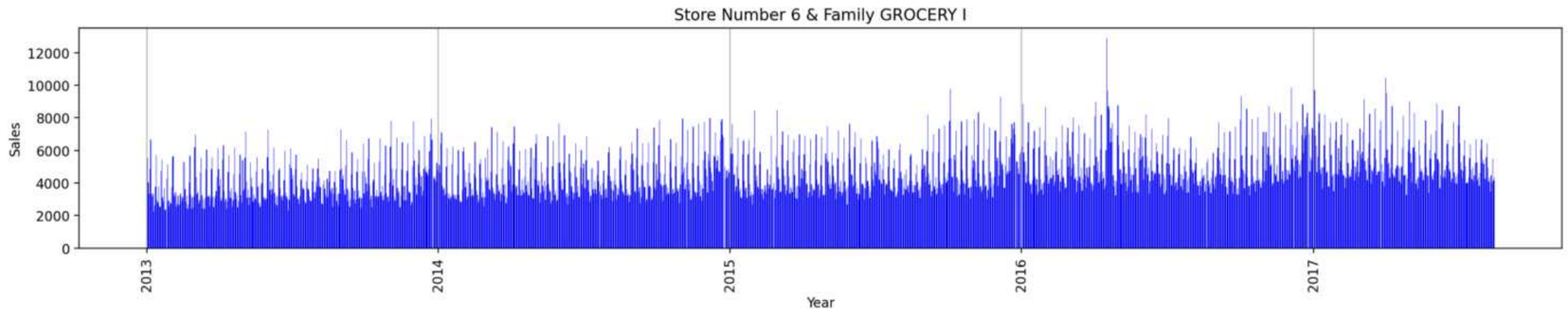
2015
2016
2017
Year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Sales
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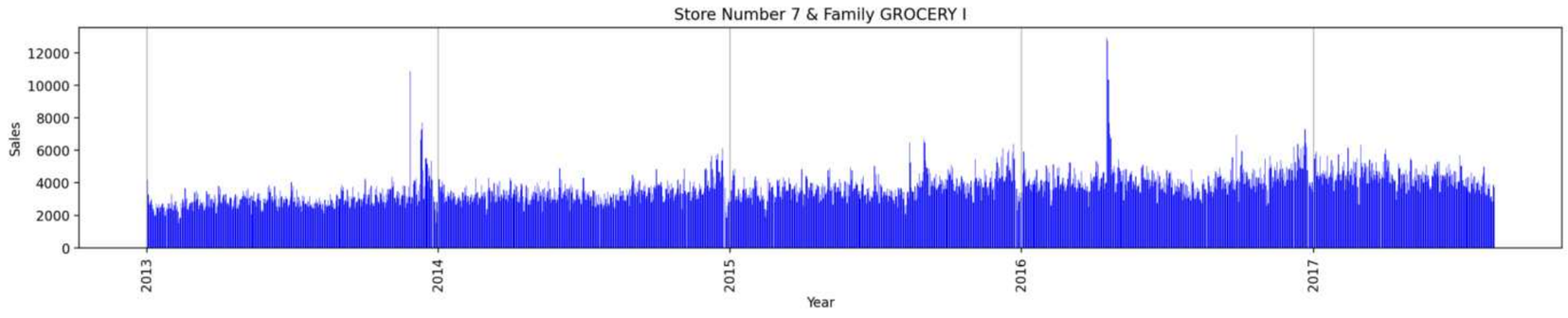
10000
12000
2013
2014
2015
2016
2017
Year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2013
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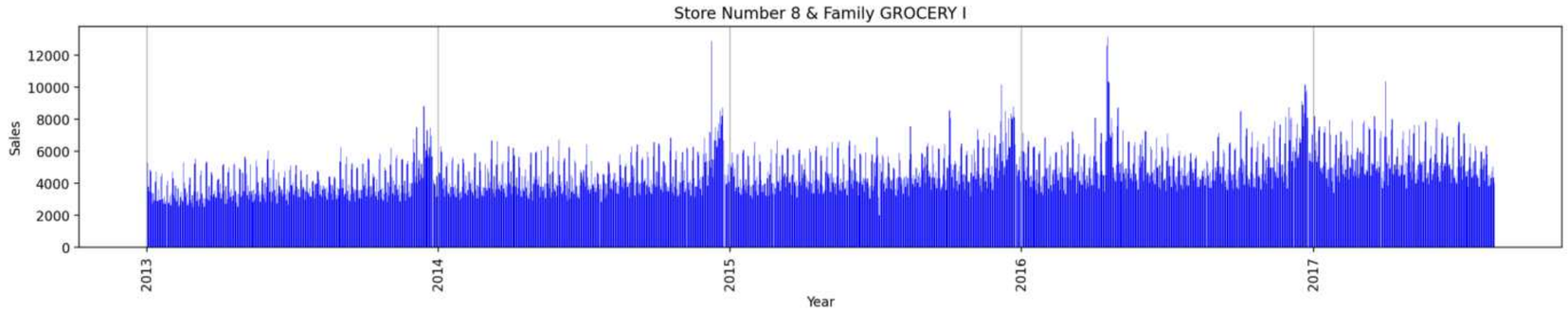
2015
2016
2017
Year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Sales
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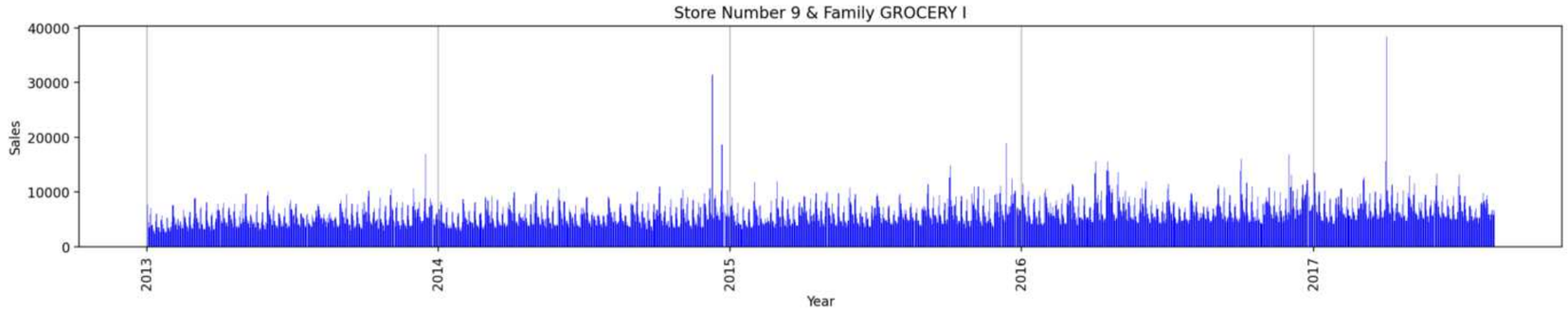
2016
2017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2015
2016
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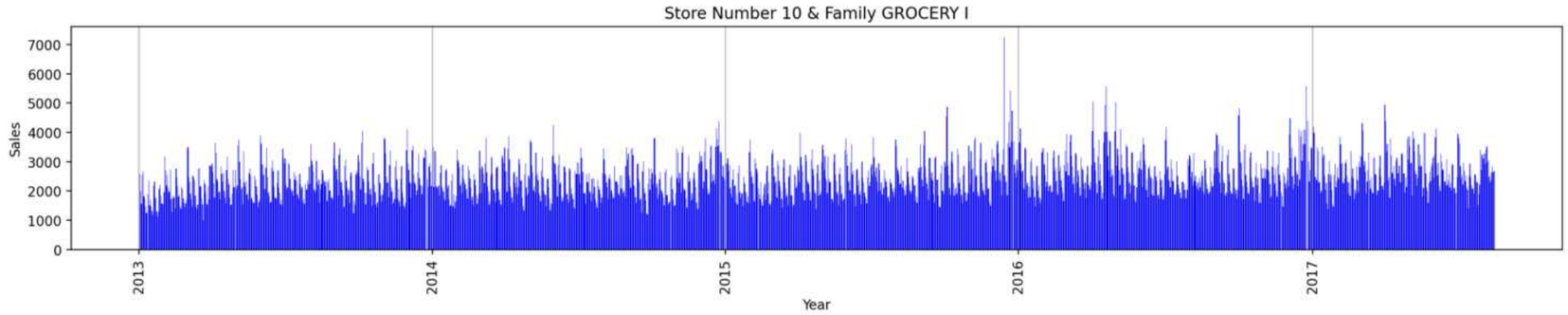
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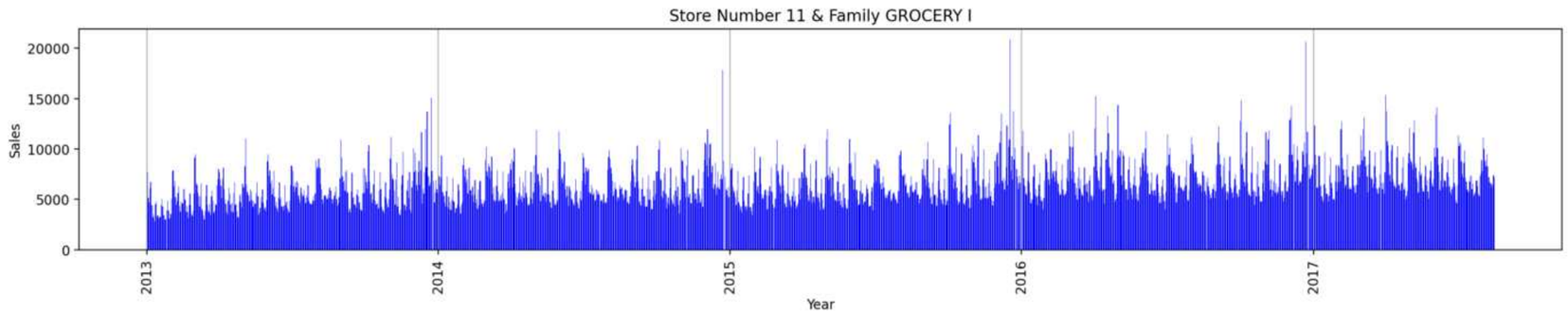
2015
2016
2017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Year
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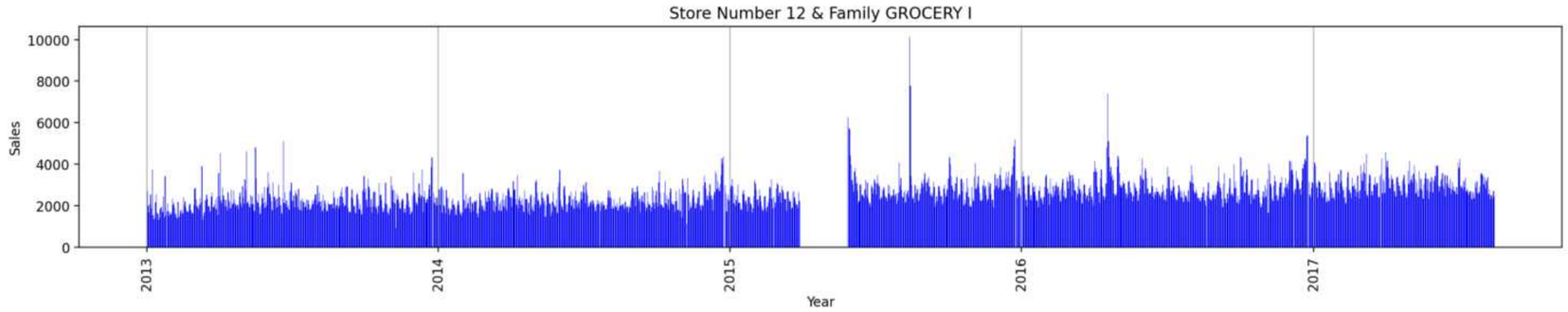
2015
2016
2017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Year
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10000
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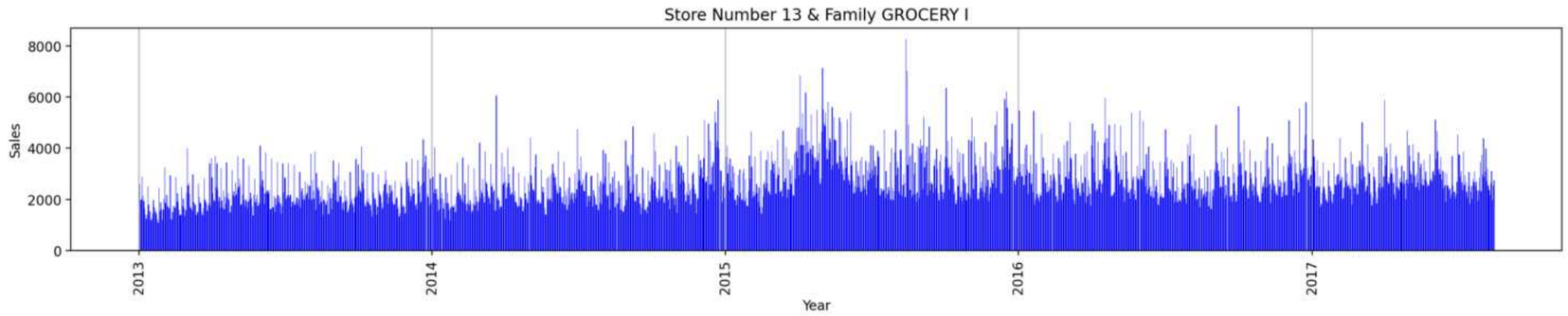
2014
2015
2016
2017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Sales
Year
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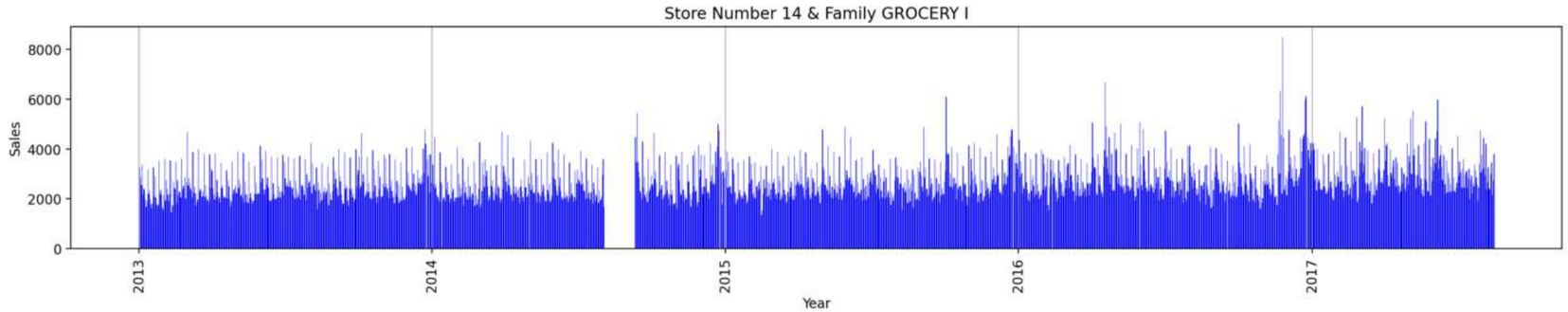
8000
2013
2014
2015
2016
2017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Sales
Year
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2014
2015
2016
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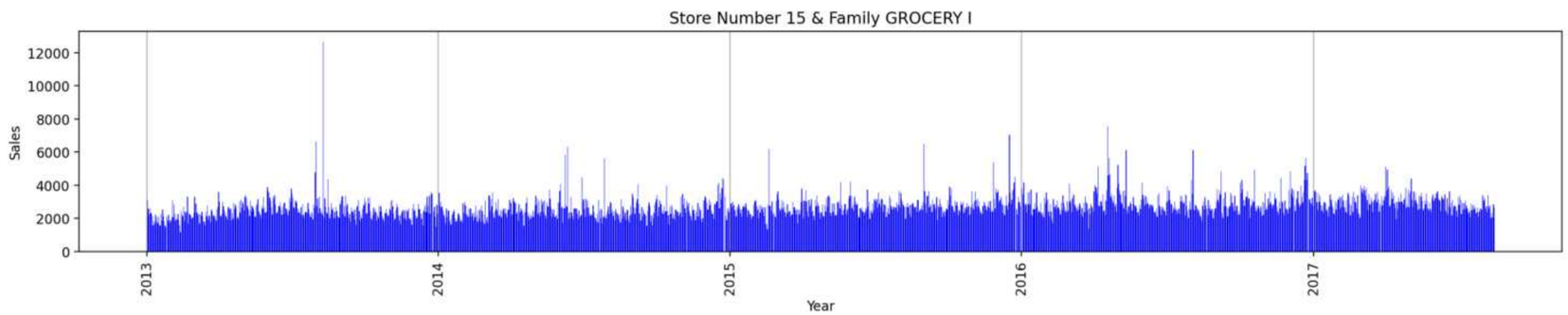
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2016
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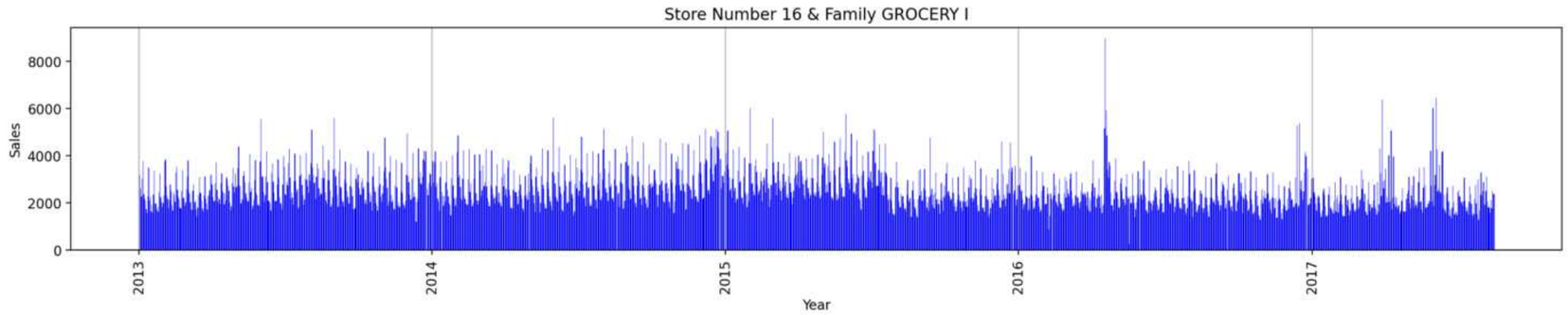
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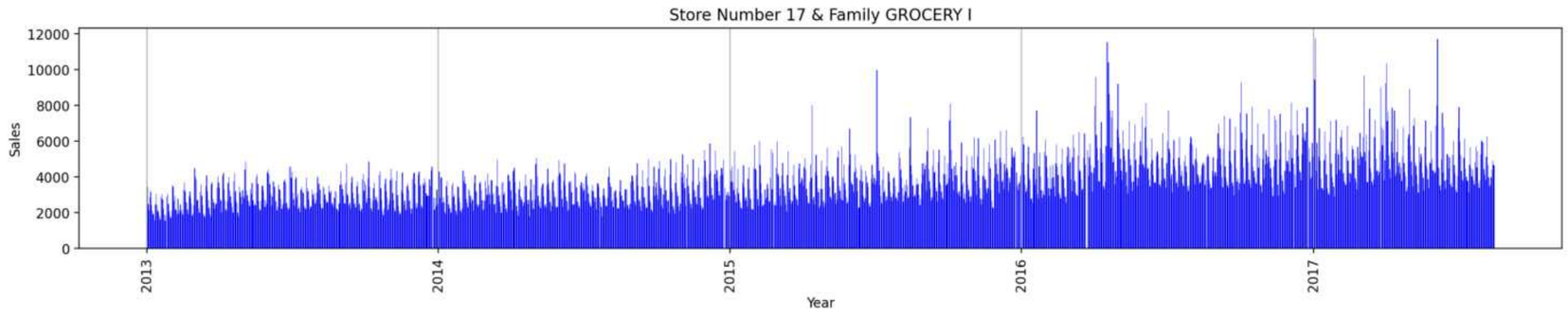
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Sales
Year
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2013
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2016
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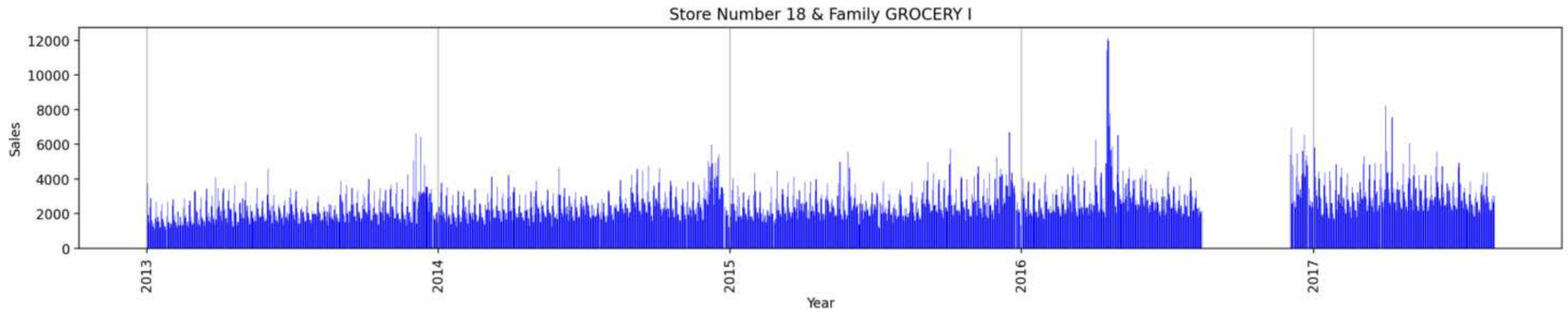
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Sales
Year
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12000
2013
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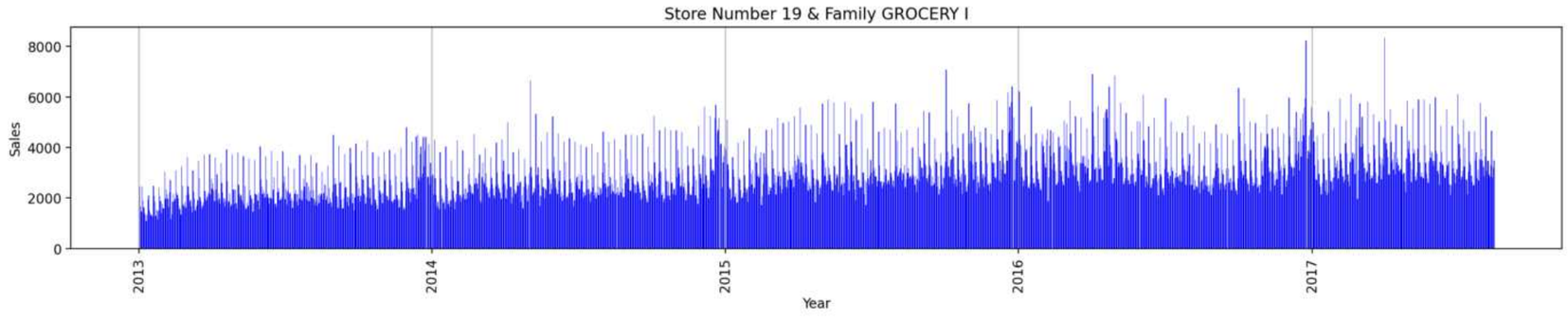
2015
2016
2017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Sales
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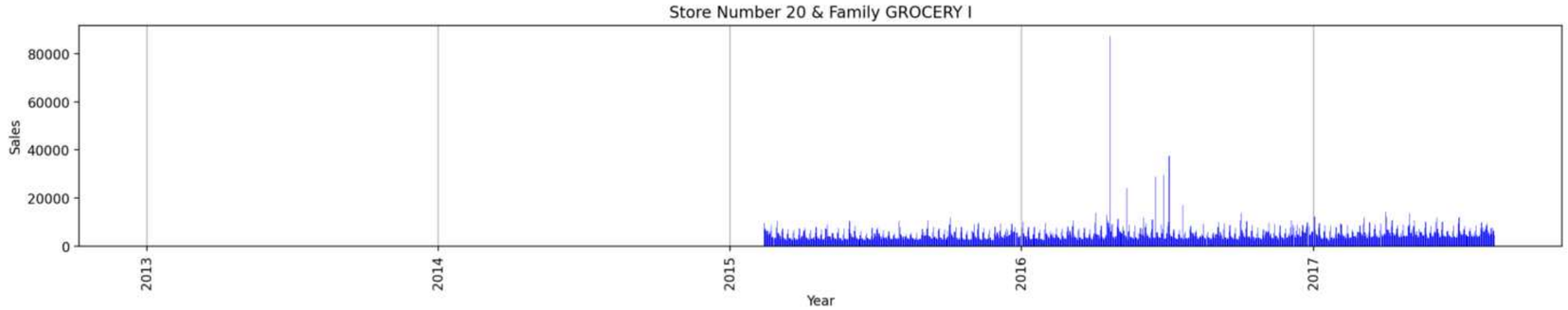
Store Number 20 & Family GROCERY I
Sales
Year
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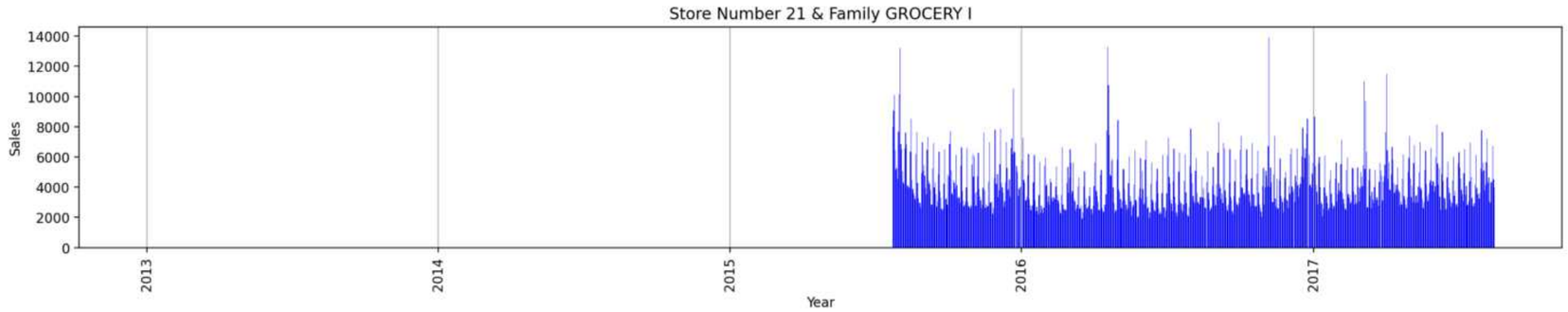
2016
2017


Store Number 21 & Family GROCERY I
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Store Number 22 & Family GROCERY I
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Year
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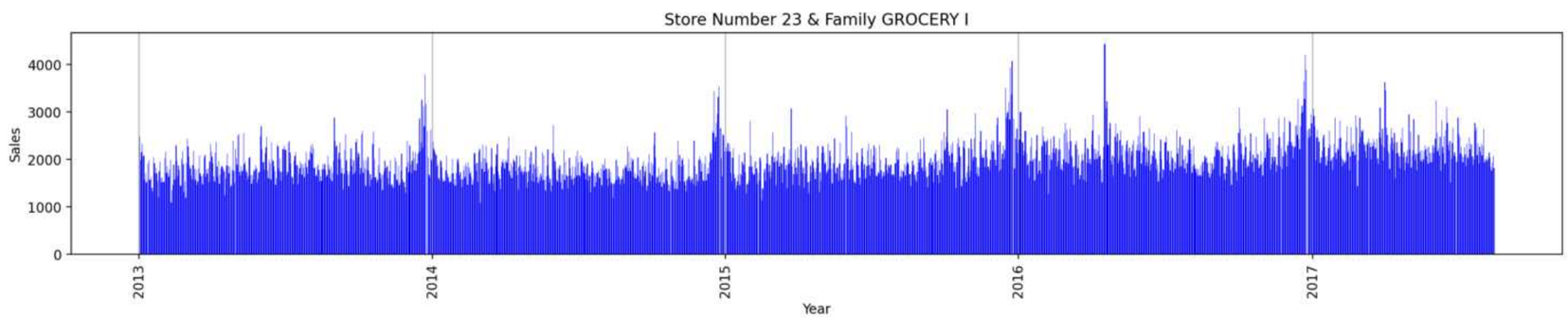
2015
2016
2017


Store Number 23 & Family GROCERY I
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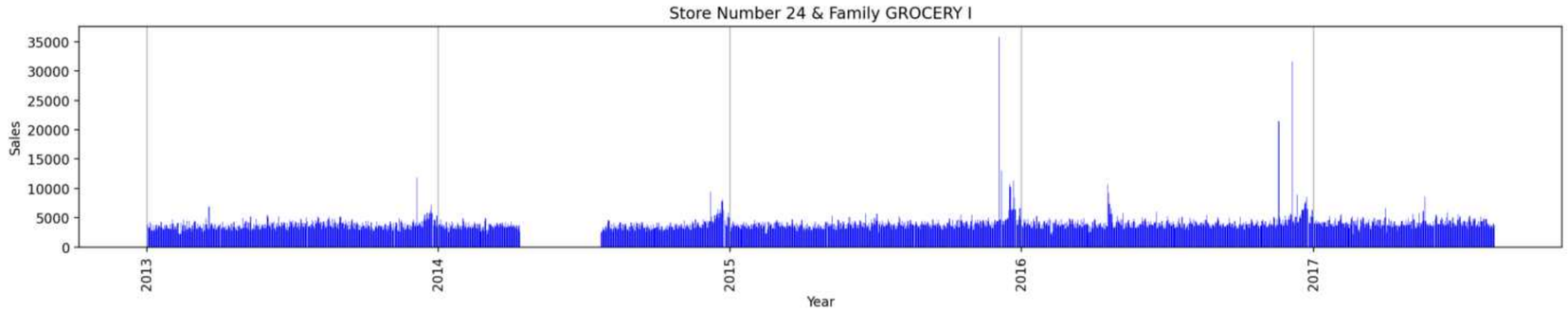
Store Number 24 & Family GROCERY I
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30000
35000
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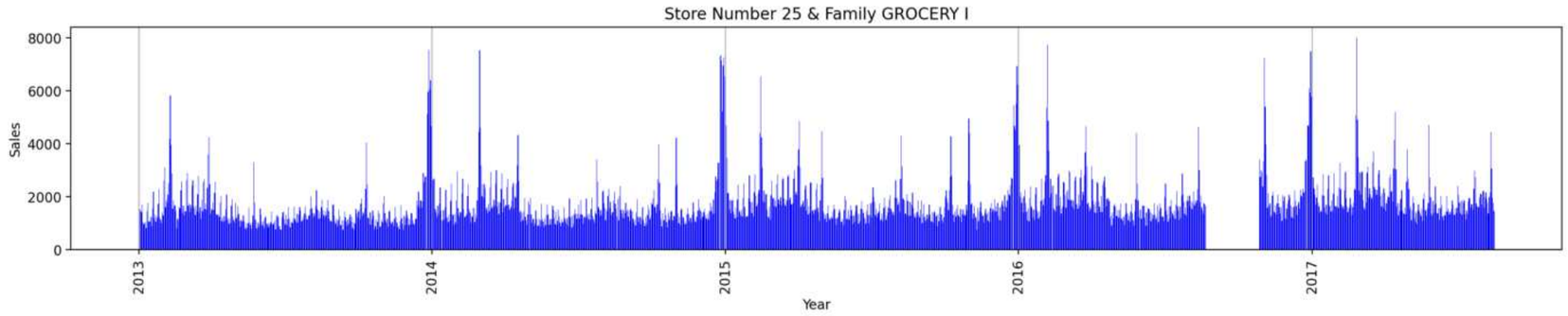
2014
2015
2016
2017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2014
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2016
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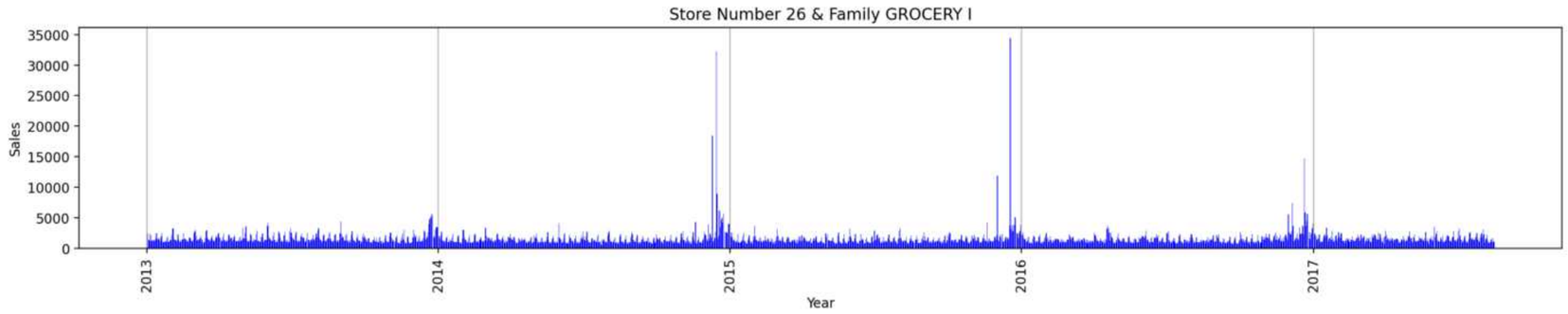
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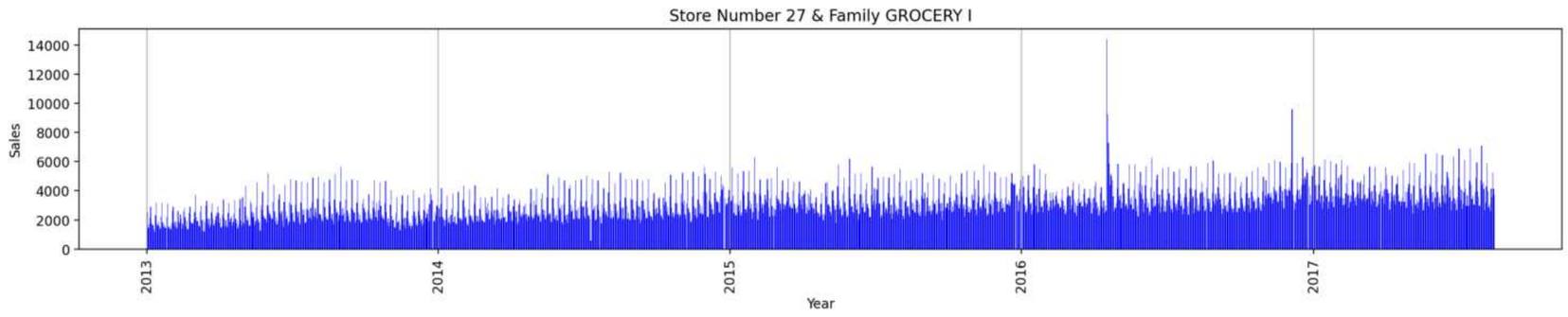
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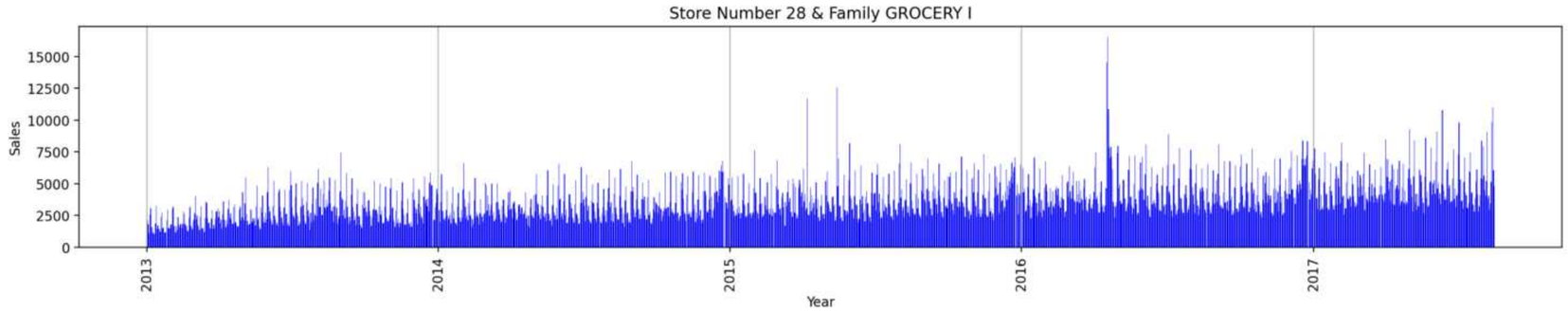
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2015
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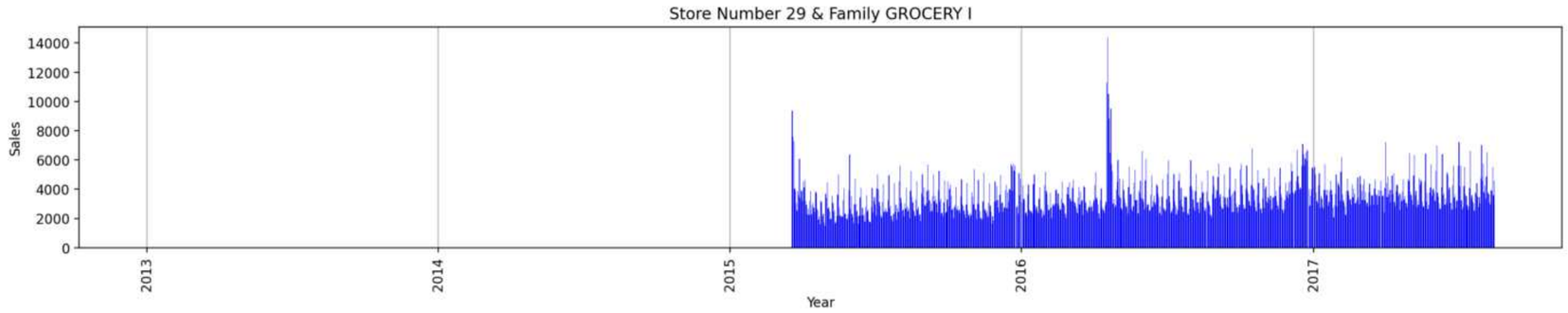
Year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Sales
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2000
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2015
2016
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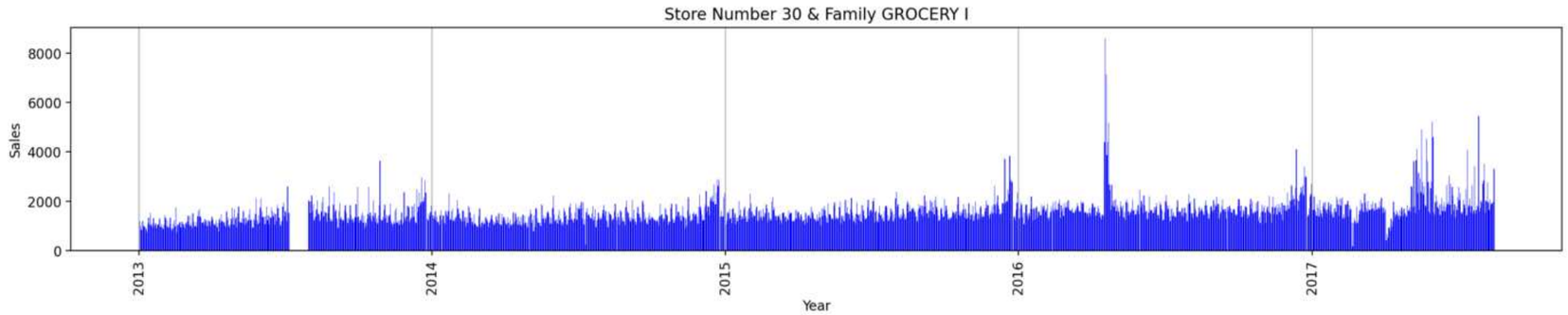
Year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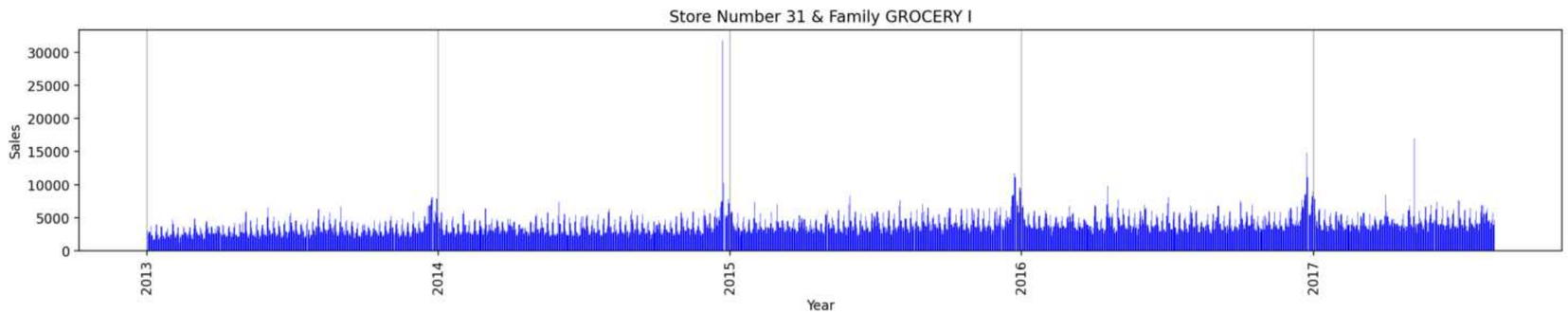
2015
2016
2017
Year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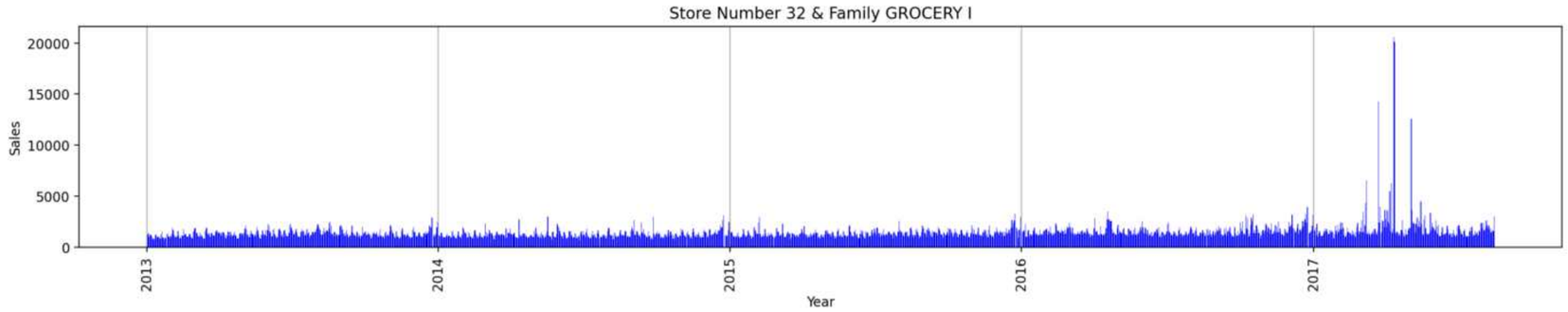
2014
2015
2016
2017
Year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Sales
Year
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2016
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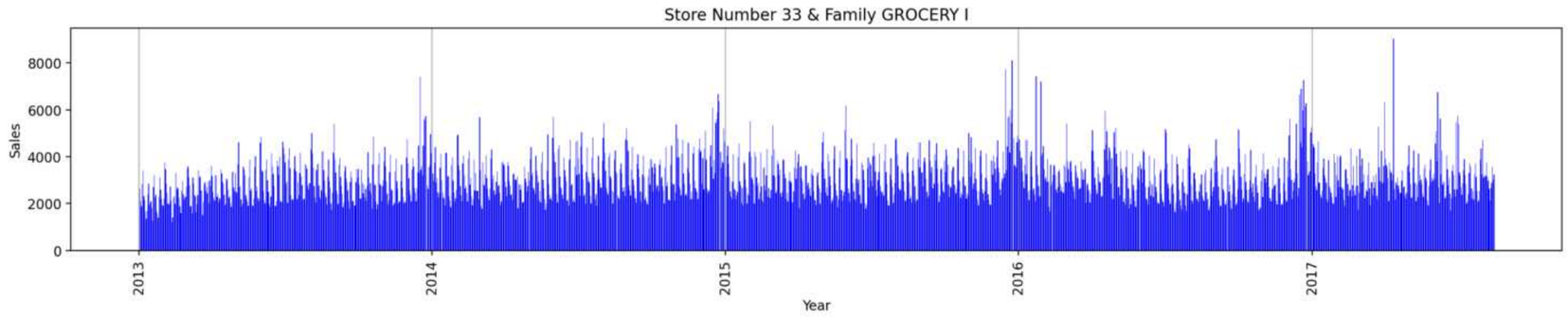
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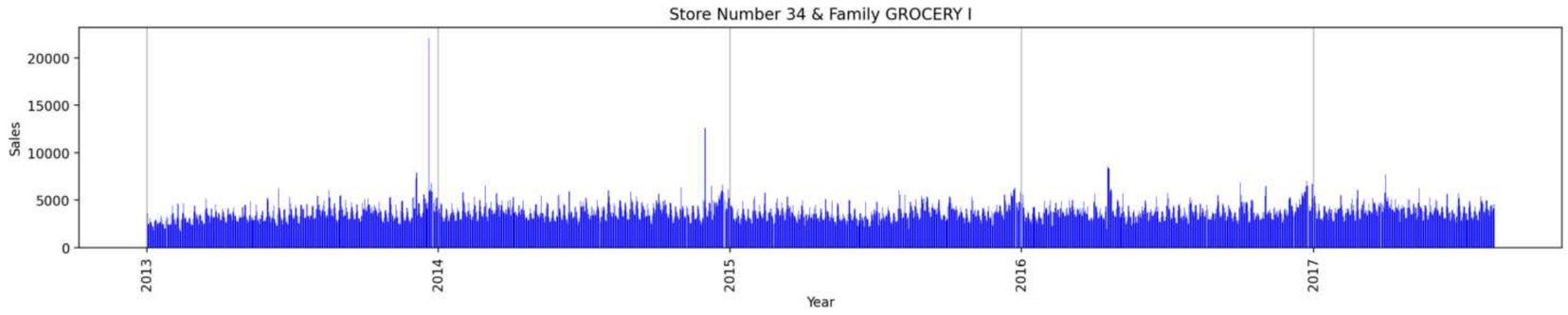
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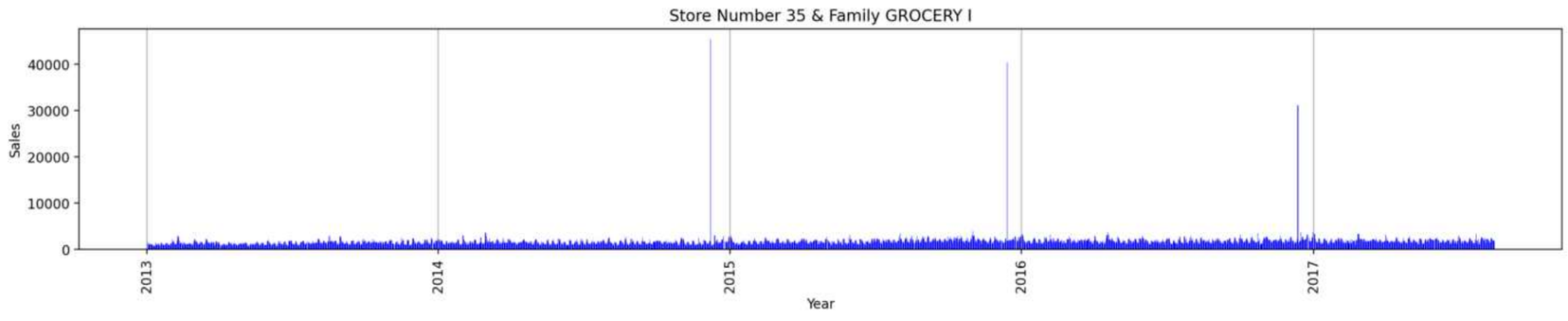
2015
2016
2017


Store Number 35 & Family GROCERY I
Sales
Year
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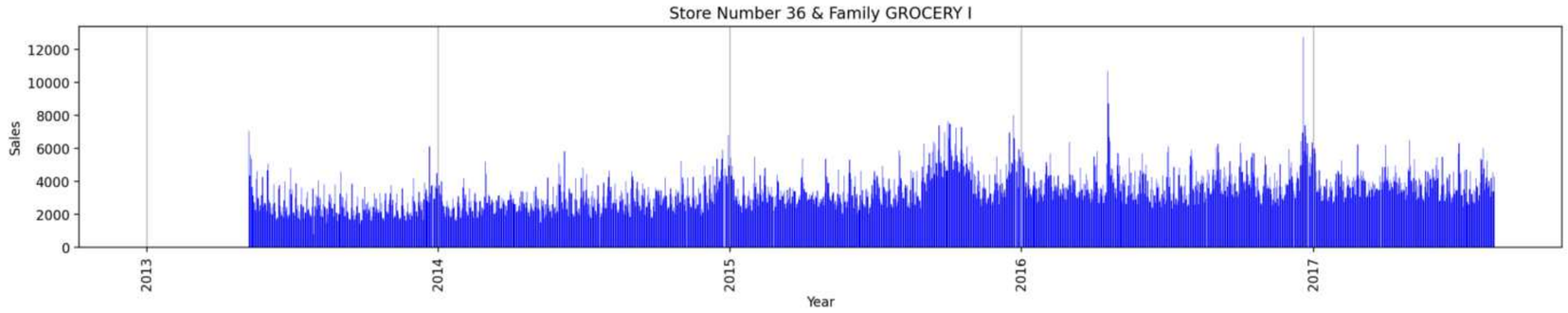
2016
2017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Sales
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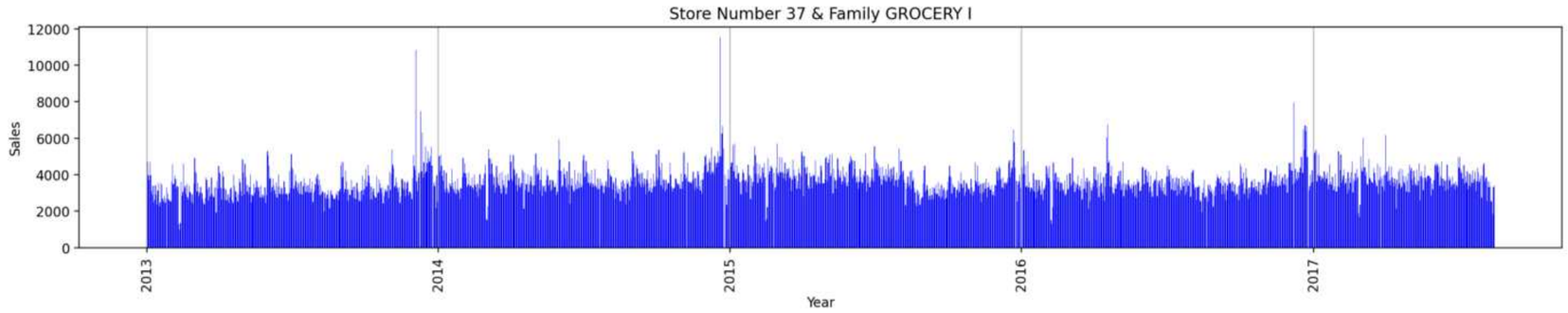
2014
2015
2016
2017


Store Number 37 & Family GROCERY I
Sales
Year
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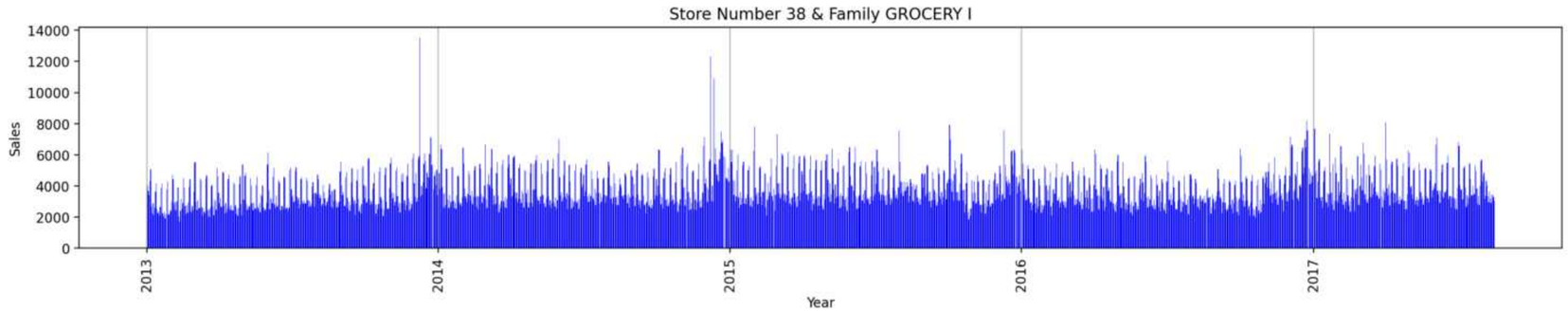
6000
8000
10000
12000
2013
2014
2015
2016
2017


Store Number 38 & Family GROCERY I
Sales
Year
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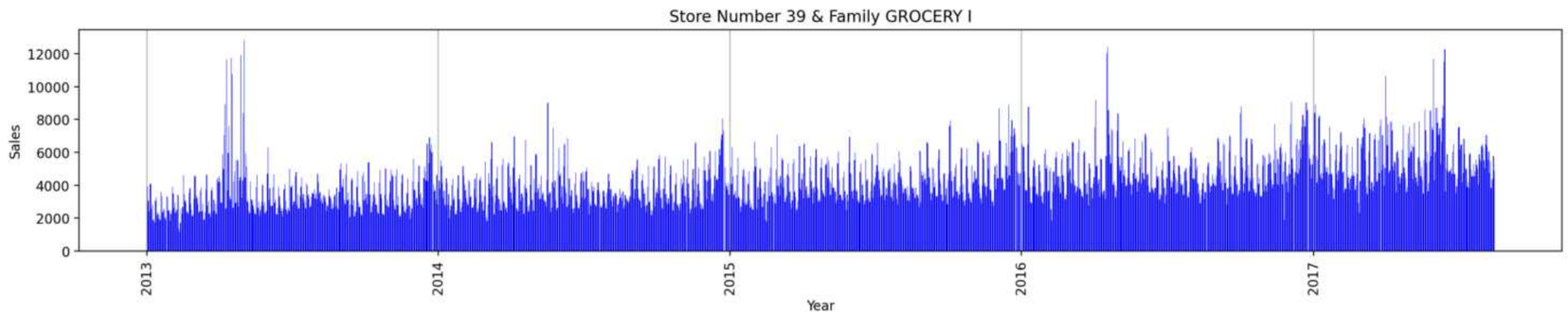
8000
10000
12000
14000
2013
2014
2015
2016
2017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Sales
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12000
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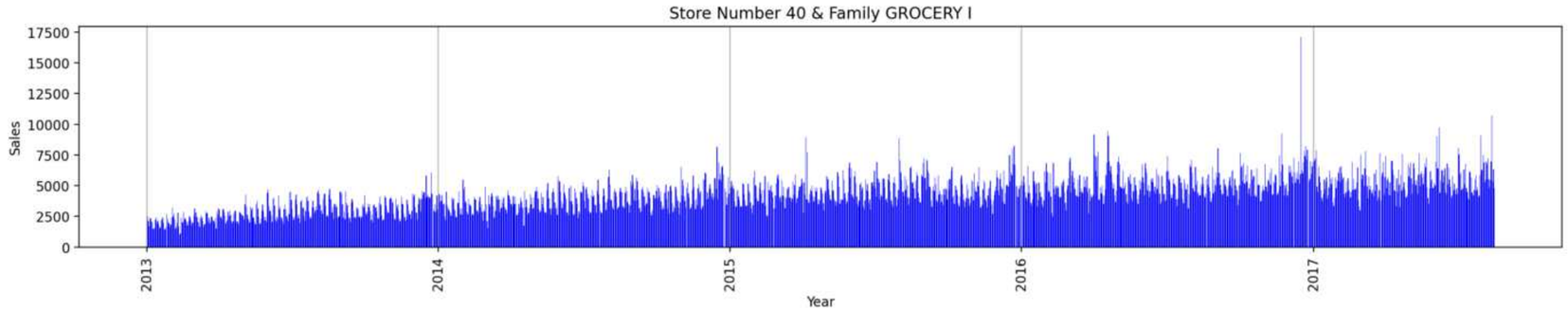
2014
2015
2016
2017


Store Number 40 & Family GROCERY I
Sales
Year
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15000
17500
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2014
2015
2016
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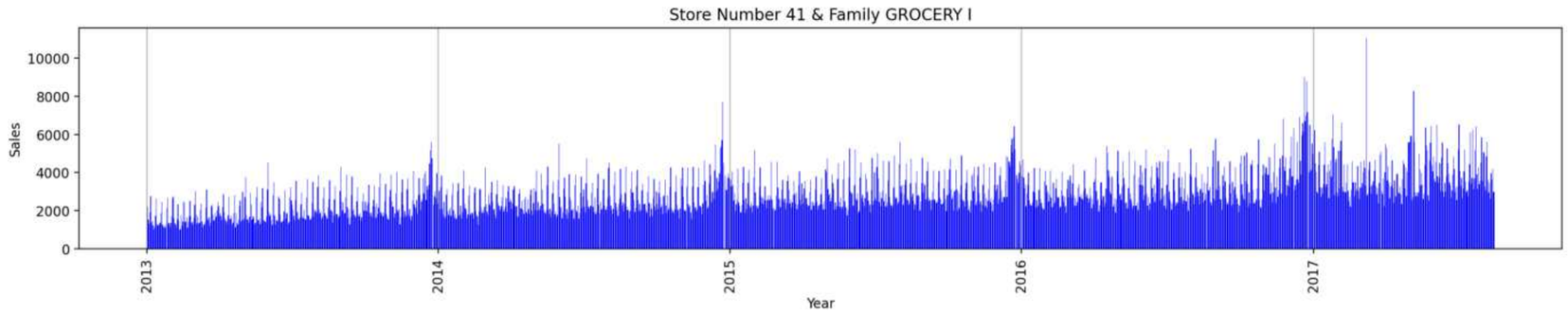
Store Number 41 & Family GROCERY I
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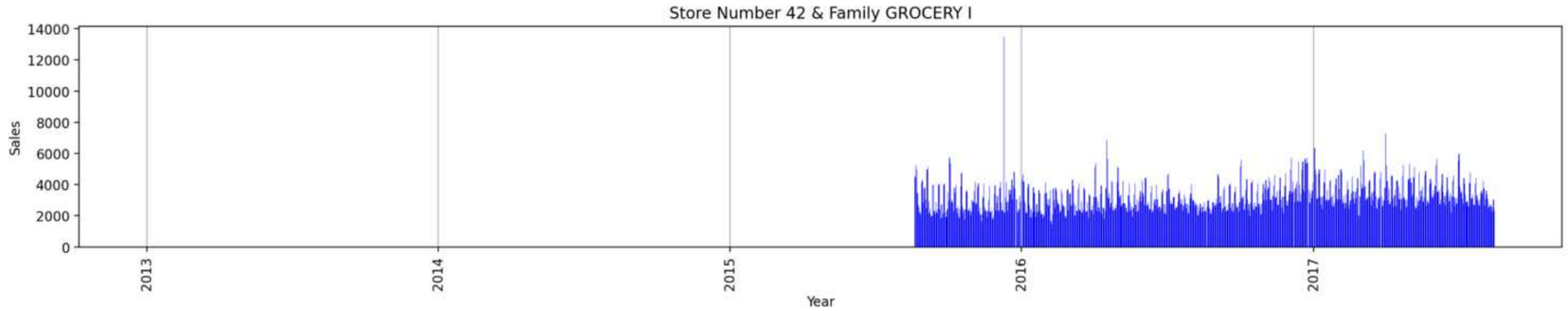
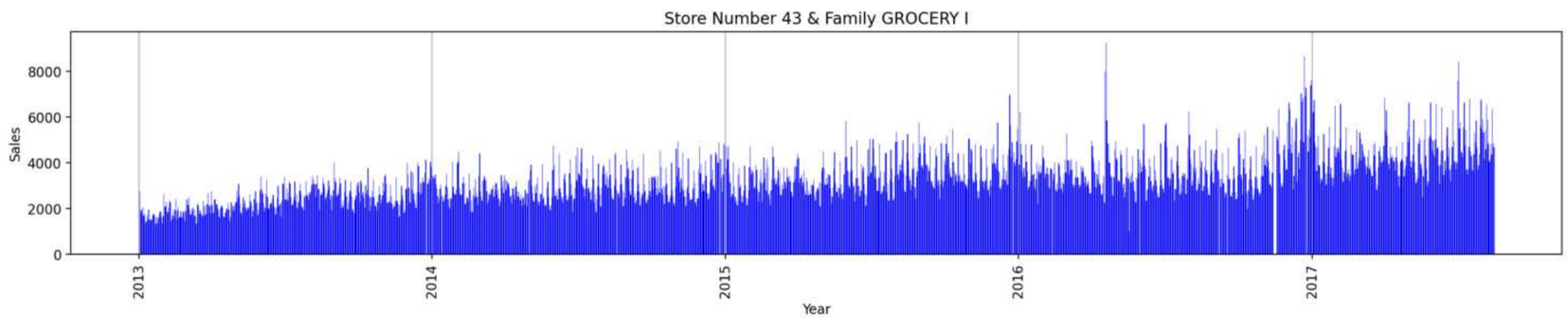
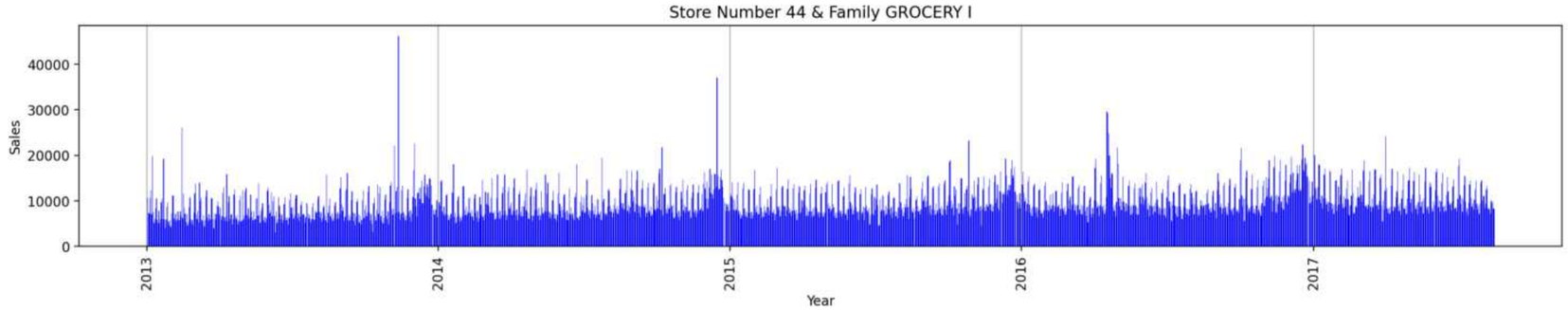
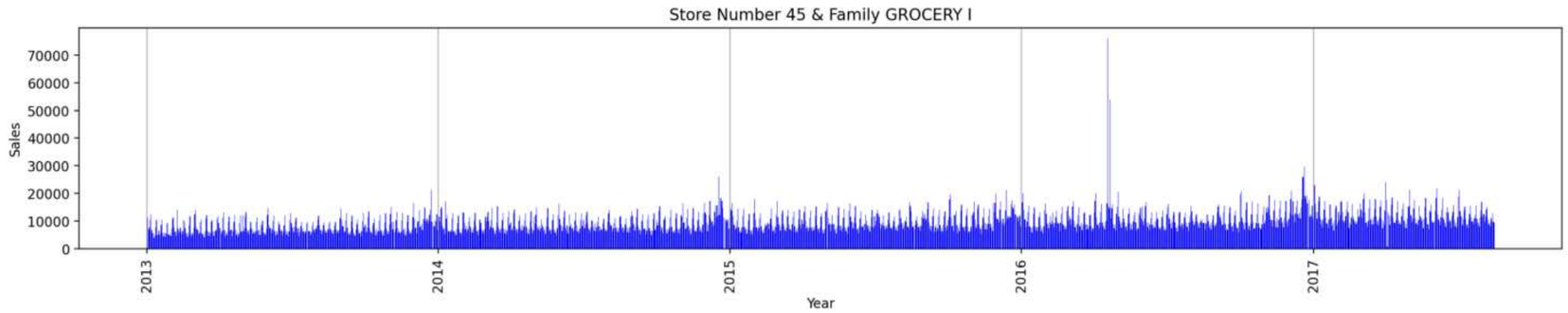
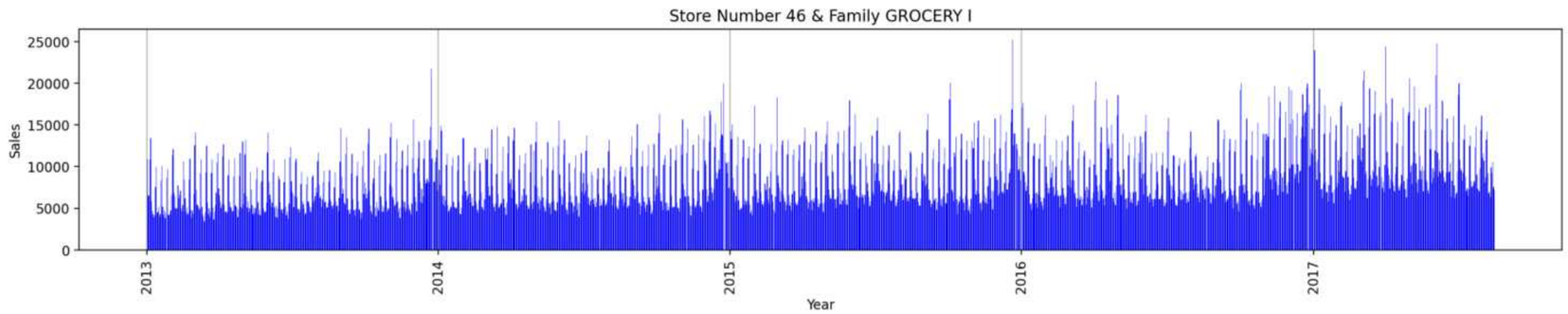
10000
2013
2014
2015
2016
2017

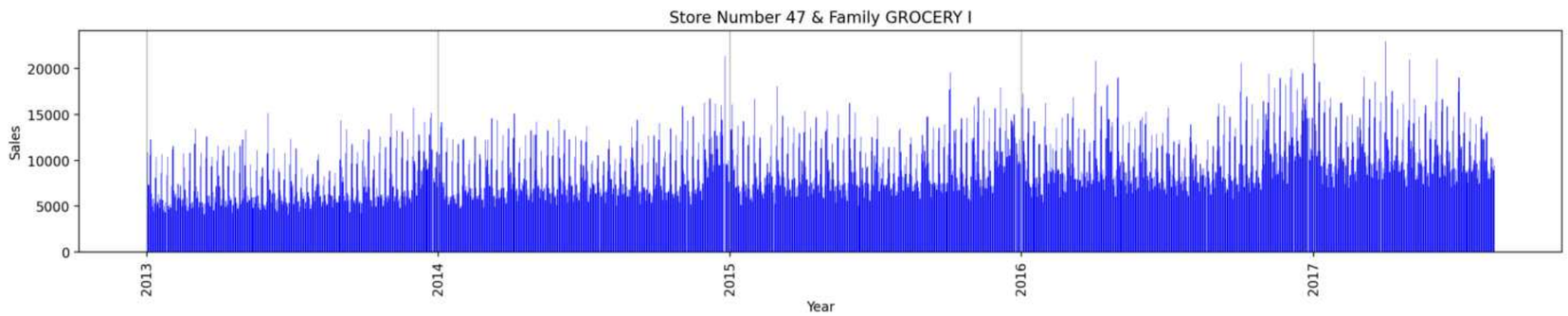

Store Number 42 & Family GROCERY I
Sales
Year
0
2000
4000
6000
8000
10000
12000
14000
2013
2014
2015
2016
2017

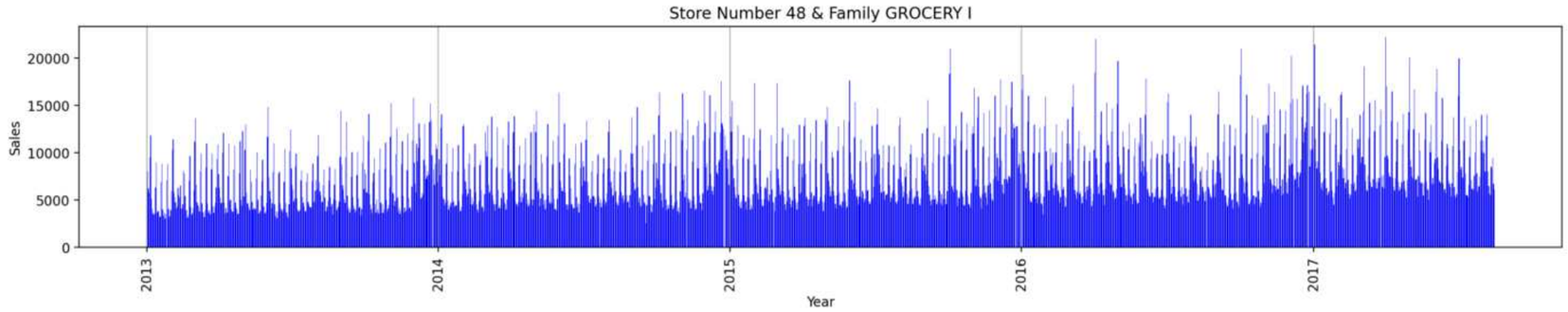

Store Number 43 & Family GROCERY I
Sales
Year
0
2000
4000
6000
8000
2013
2014
2015
2016
2017

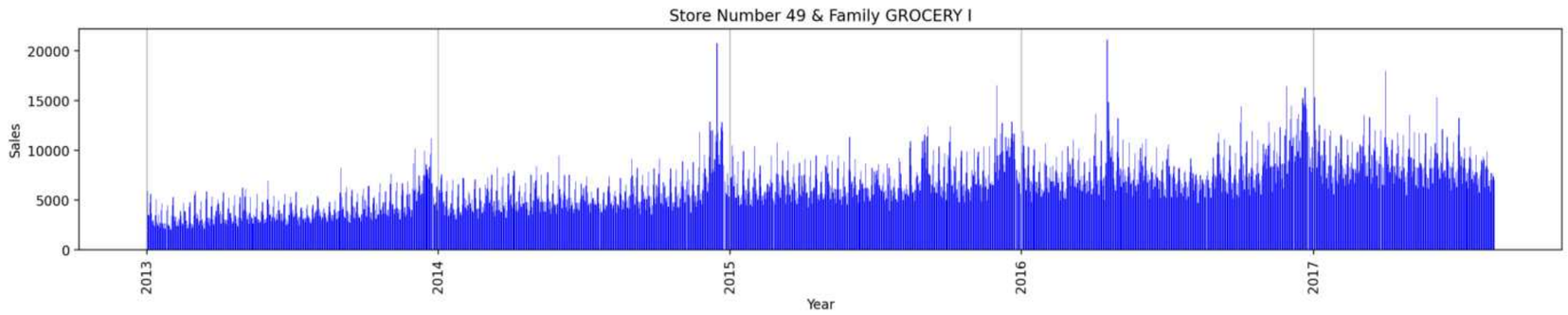

Store Number 44 & Family GROCERY I
Sales
Year
0
10000
20000
30000
40000
2013
2014
2015
2016
2017

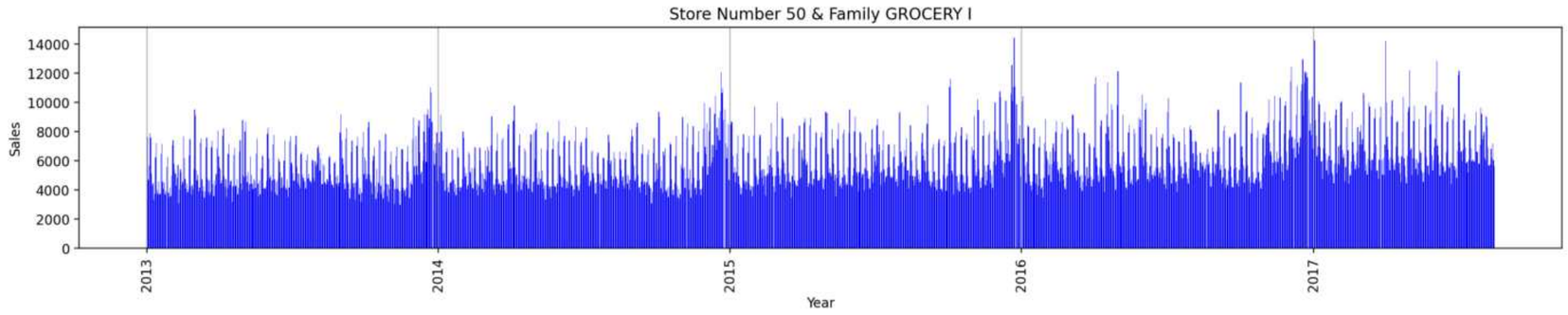

Store Number 45 & Family GROCERY I
Sales
Year
0
10000
20000
30000
40000
50000
60000
70000
2013
2014
2015
2016
2017

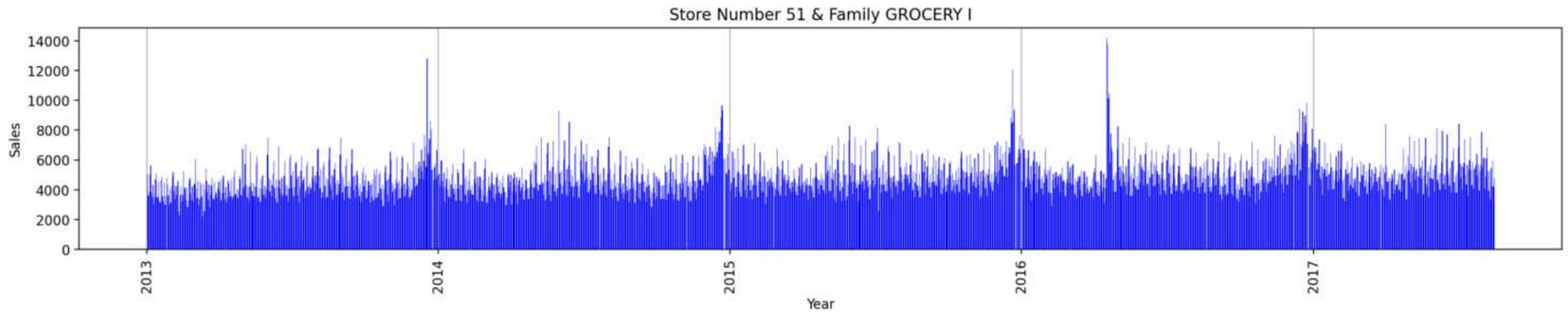

Store Number 46 & Family GROCERY I
Sales
Year
0
5000
10000
15000
20000
25000
2013
2014
2015
2016
2017

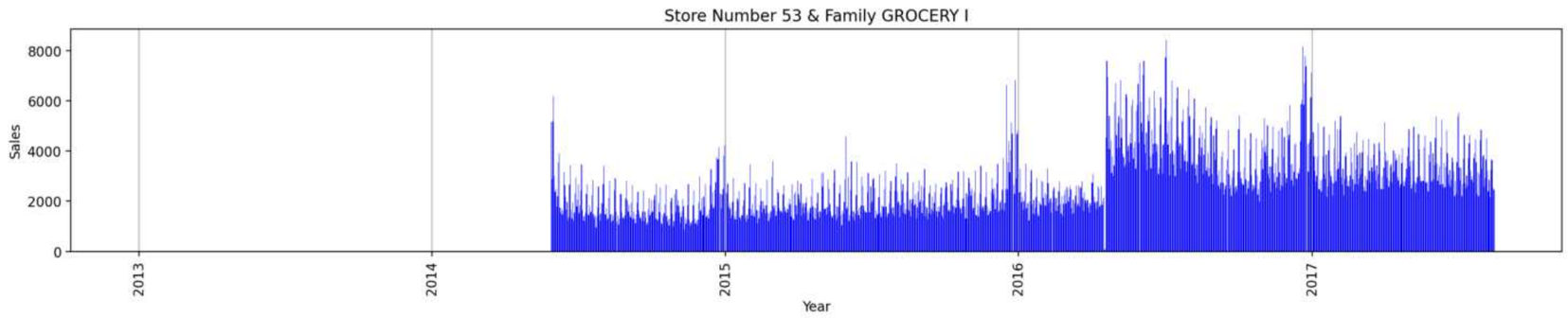

Store Number 47 & Family GROCERY I
Sales
Year
0
5000
10000
15000
20000
2013
2014
2015
2016
2017

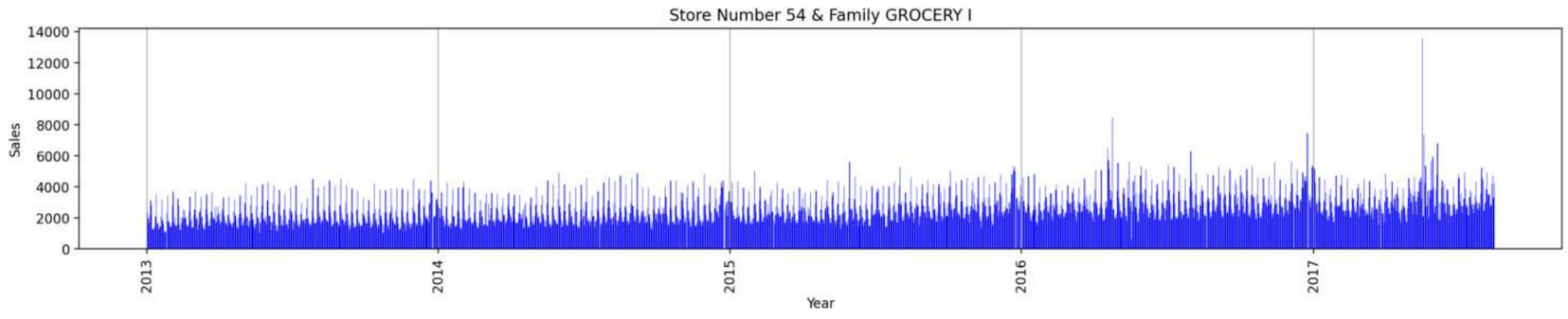

Store Number 48 & Family GROCERY I
Sales
Year
0
5000
10000
15000
20000
2013
2014
2015
2016
2017


Store Number 49 & Family GROCERY I
Sales
Year
0
5000
10000
15000
20000
2013
2014
2015
2016
2017


Store Number 50 & Family GROCERY I
Sales
Year
0
2000
4000
6000
8000
10000
12000
14000
2013
2014
2015
2016
2017


Store Number 51 & Family GROCERY I
Sales
Year
0
2000
4000
6000
8000
10000
12000
14000
2013
2014
2015
2016
2017

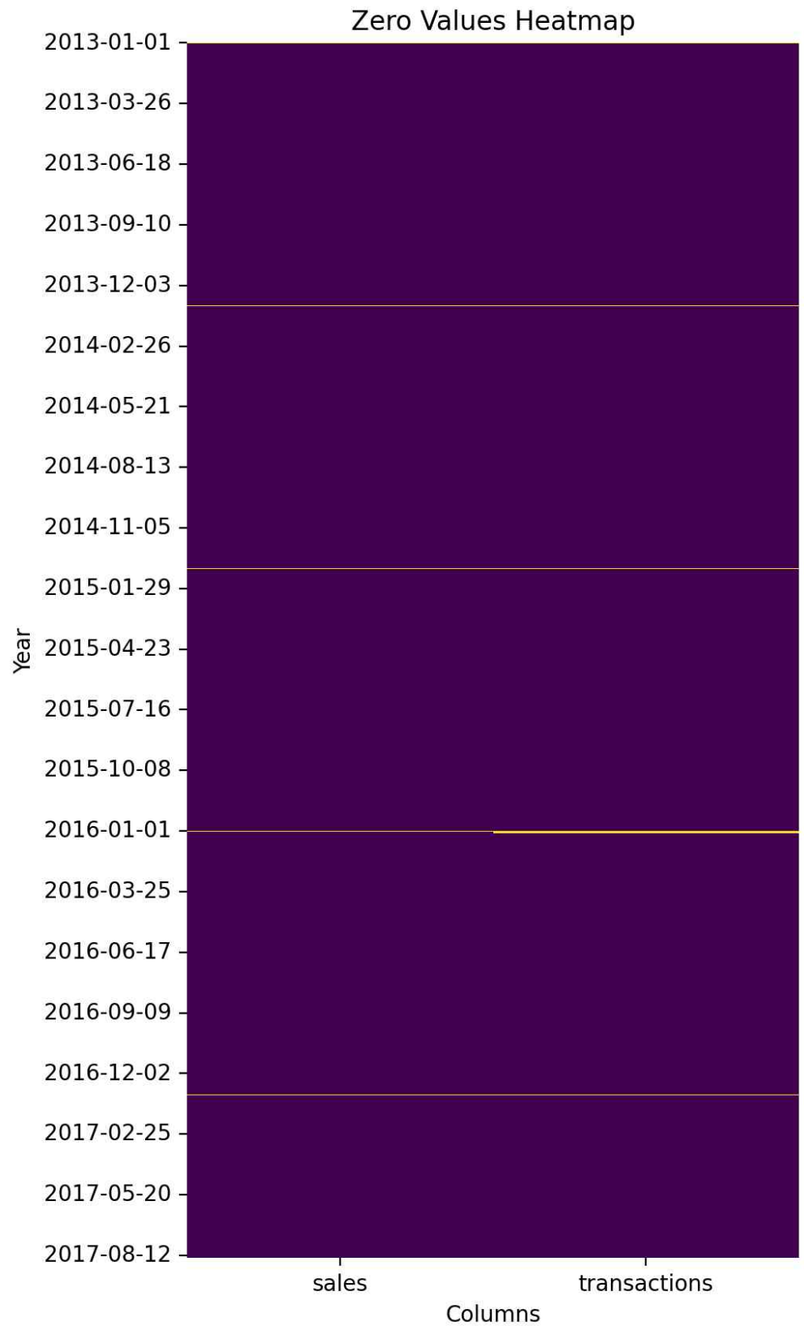




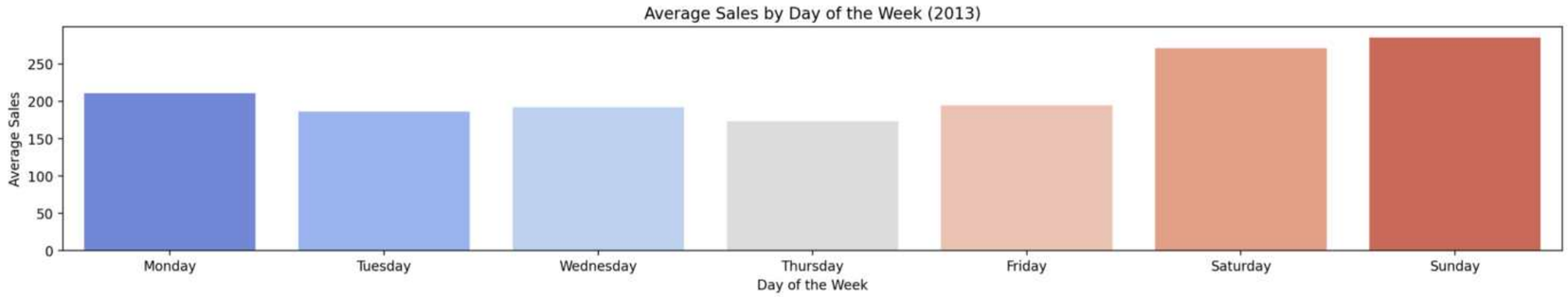
Missing Values: transactions & sales

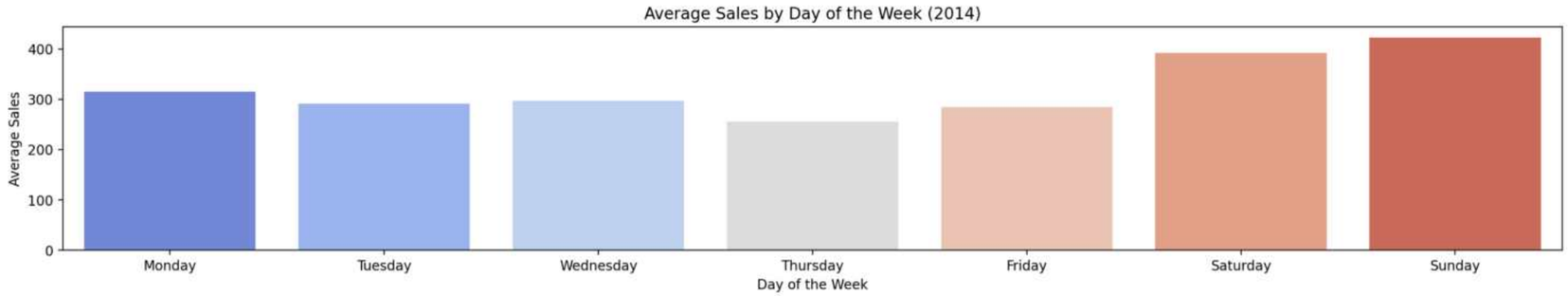
	date	store_nbr	transactions
0	2013-01-01 00:00:00	5	0
1	2013-01-02 00:00:00	5	1,903
2	2013-01-03 00:00:00	5	1,740
3	2013-01-04 00:00:00	5	1,642
4	2013-01-05 00:00:00	5	1,643
5	2013-01-06 00:00:00	5	1,754
6	2013-01-07 00:00:00	5	1,577
7	2013-01-08 00:00:00	5	1,504
8	2013-01-09 00:00:00	5	1,513
9	2013-01-10 00:00:00	5	1,449

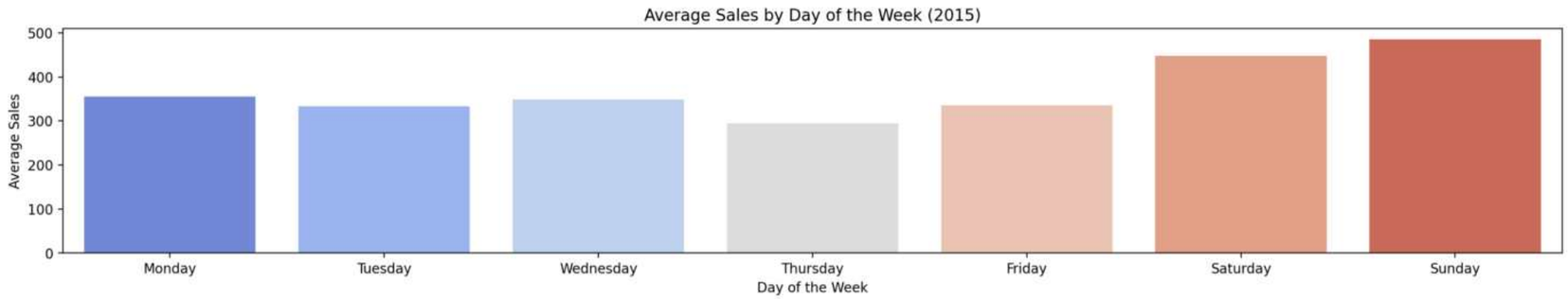
The 5 store_nbr takes 0 transactions for 4 days in 2016.

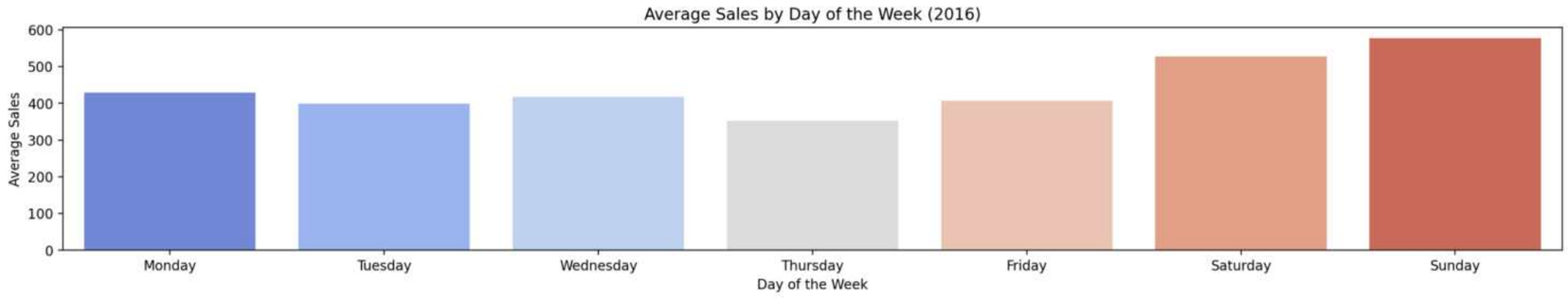


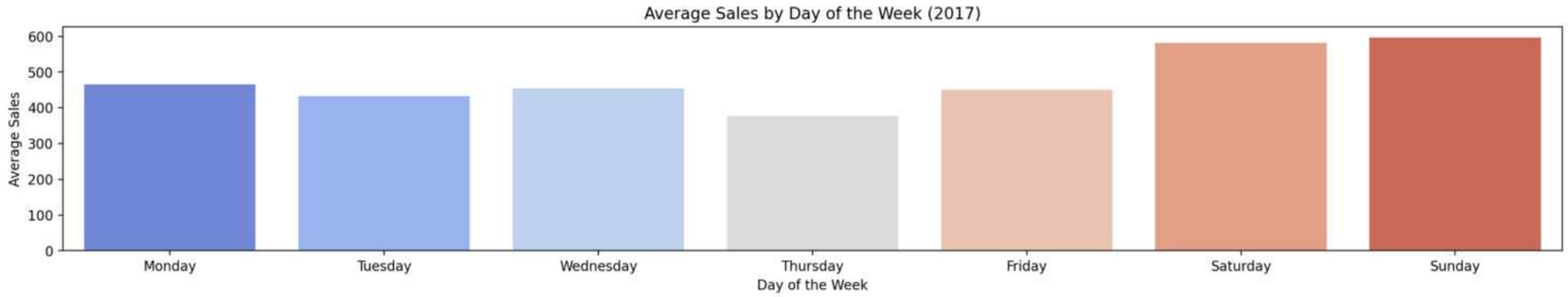
Average Sales by Day_of_week


Average Sales by Day of the Week (2013)
Average Sales
0
50
100
150
200
250
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday
Day of the Week


Average Sales by Day of the Week (2014)
Average Sales
0
100
200
300
400
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday
Day of the Week


Average Sales by Day of the Week (2015)
Average Sales
0
100
200
300
400
500
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday
Day of the Week

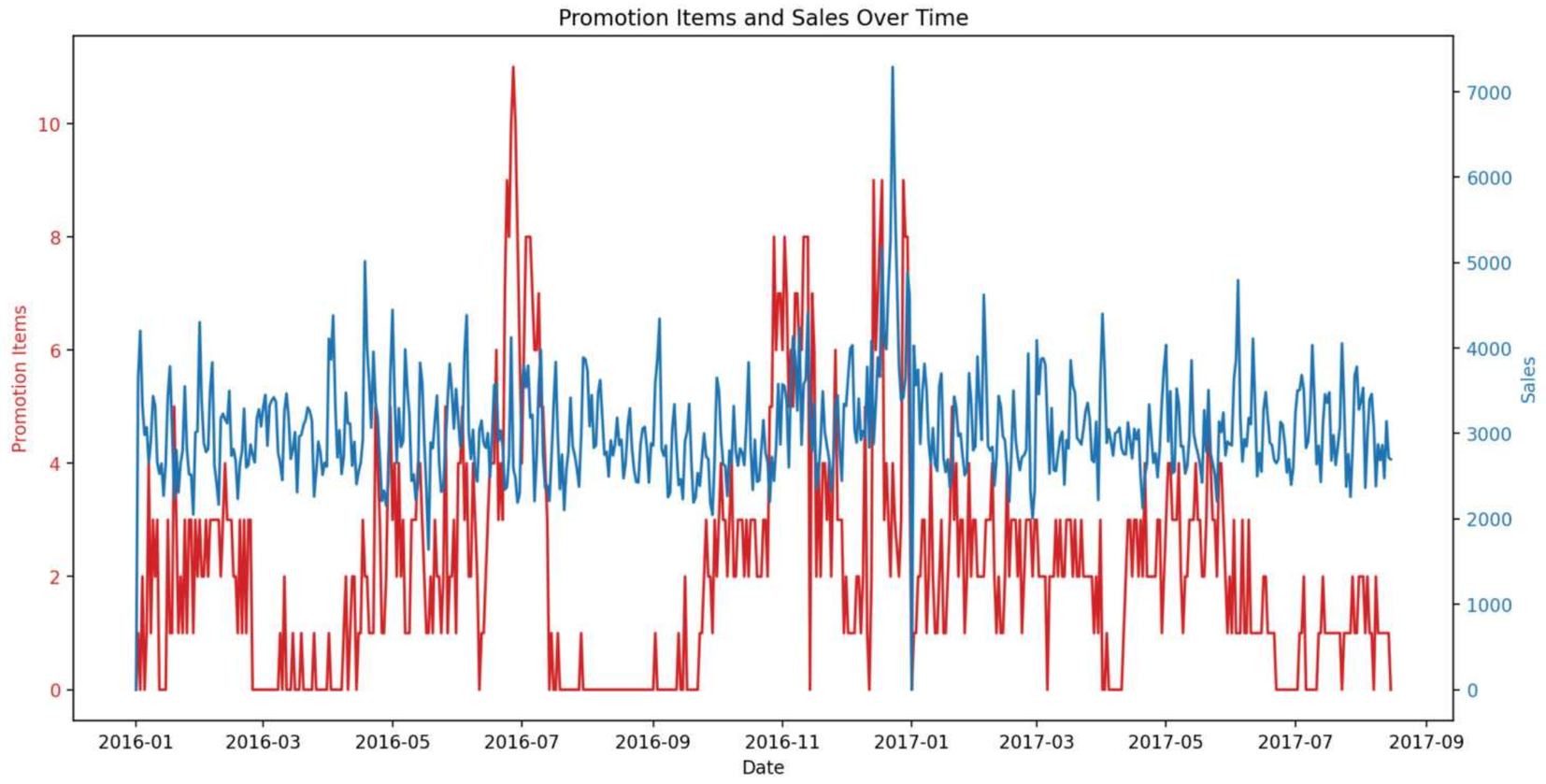

Average Sales by Day of the Week (2016)
Average Sales
0
100
200
300
400
500
600
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday
Day of the Week



Corr : Number of Promotion-items & Sales

This data is for the years 2016 and 2017.

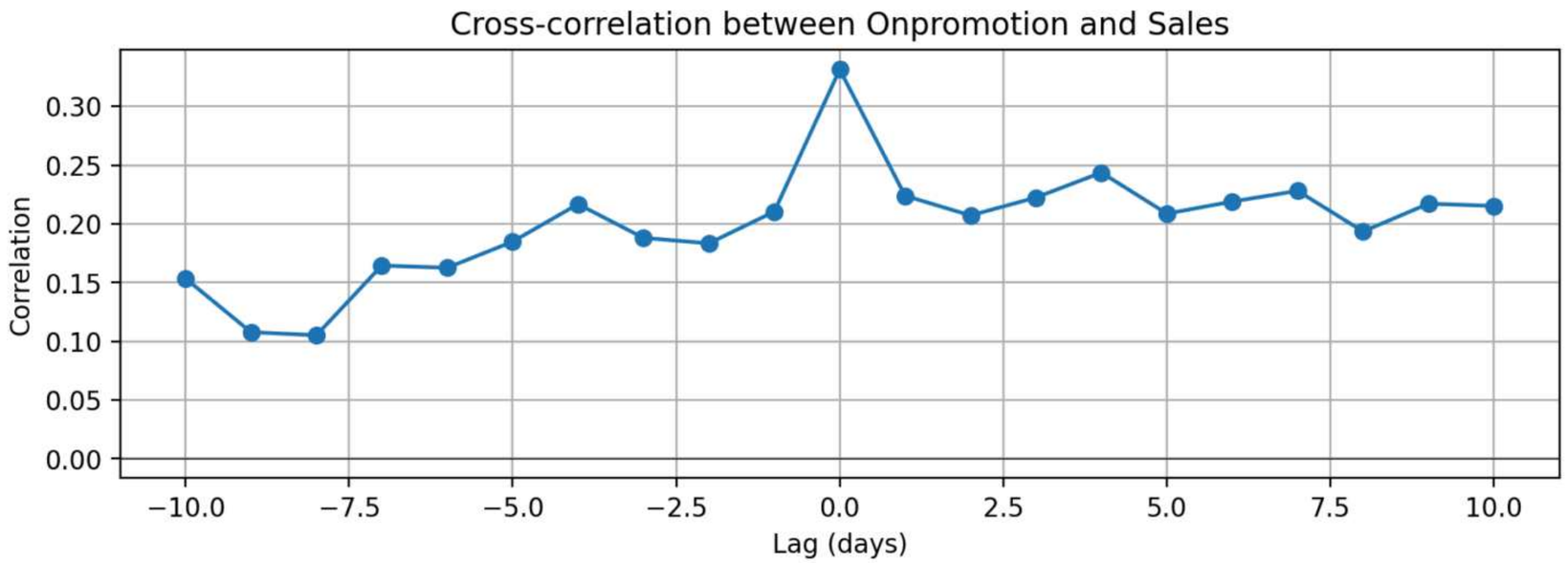
Correlation between promotion items and sales: 0.16283266954589118



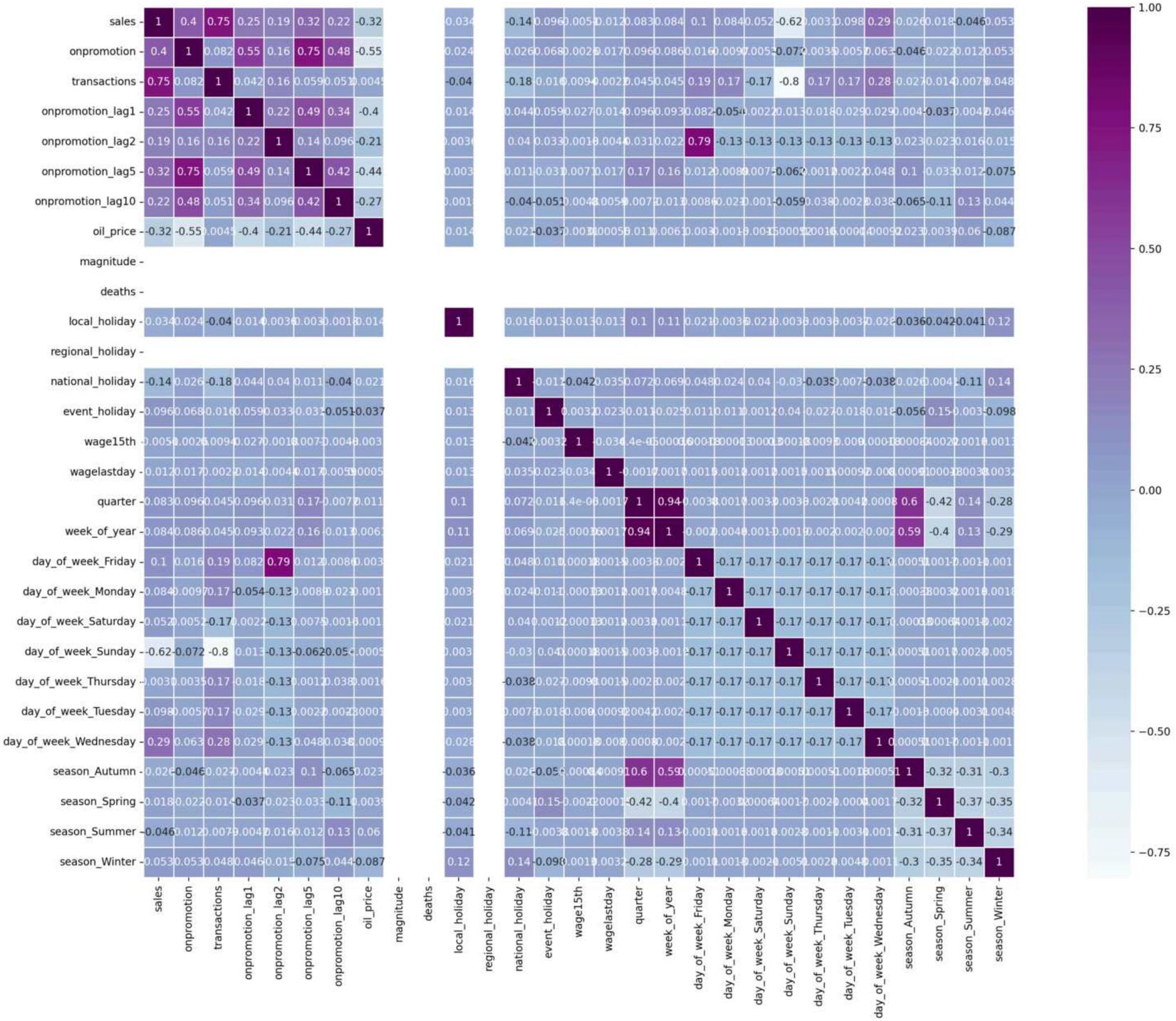
outlier detection with onpormotion

This red outlier is more than 4 standard deviations away from the mean.

lagging onpormotion



feature selection: corr heatmap


sales
onpromotion
transactions
onpromotion_lag1
onpromotion_lag2
onpromotion_lag5
onpromotion_lag10
oil_price
magnitude
deaths
local_holiday
regional_holiday
national_holiday
event_holiday
wage15th
wagelastday
quarter
week_of_year
day_of_week_Friday
day_of_week_Monday
day_of_week_Saturday
day_of_week_Sunday
day_of_week_Thursday
day_of_week_Tuesday
day_of_week_Wednesday
season_Autumn
season_Spring
season_Summer
season_Winter
1.00
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75