

CS5346 2023-24 OTOT Tasks A2

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1 Introduction

<i>Data Name</i>	<i>Description</i>	<i>Data Type</i>
Store	ID of the store	Norminal
Date	Weekly settlement date	Temporal
Weekly_sales	weekly sales of the store	Continuous
Holiday_flag	In that week any special holiday or not (0 means no and 1 means yes)	Norminal
Temperature	Temperature of that day	Continuous
Fuel_price	Fuel price in the region	Continuous
CPI	Consumer Price Index	Ratio
Unemployment	Unemployment rate	Ratio

Data source: <https://www.kaggle.com/datasets/bharatkumar0925/walmart-store-sales>

This task is done through *D3.js*.

The purpose of this visualization task is to find the relationship between stores and sales, local fuel prices, and sales and temperature.

Task on Github: <https://github.com/Edward-EH-Holmes/CS5346-2023-24-Own-Time-Own-Target-OTOT-Tasks/tree/main/Task%20A/A2>

If you want to localize this deployment, I have provided the Ubuntu tutorial here.

Install npm:

```
sudo apt install npm
```

Install node:

*Student ID: A0287084U

```
npm install node
```

Install missing dependence:

```
npm install
```

Run demo:

```
node app.js
```

Finally, open your browser and jump to: <http://localhost:5000>

2 Screenshot of Visualization

Total Sales Across All Stores (Pie chart)

24 23 31 19 39 1 6 27 10 2 13 14 4 20
45 17 8 35 40 34 26 12 22 18 32 41 28 11

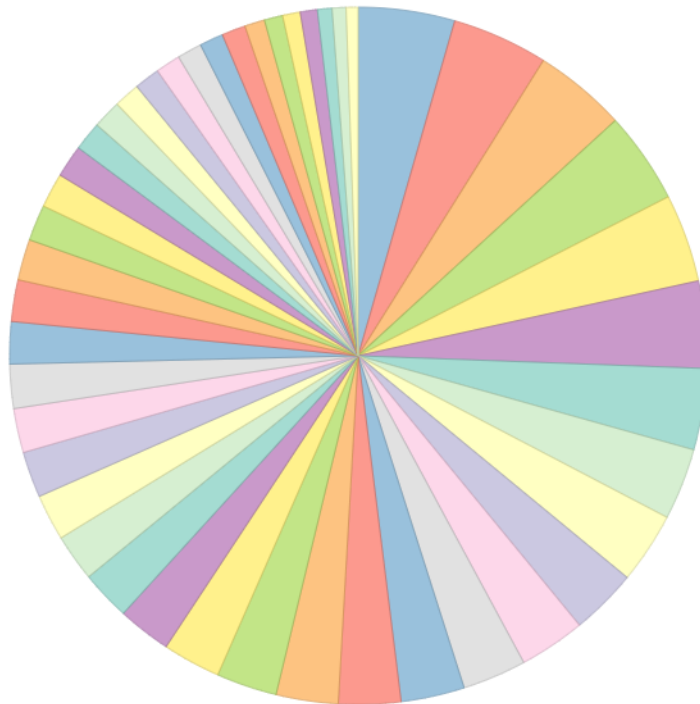


Figure 1: Survivors by Passenger Class (Percentage Stacked Bar Chart)

Store 1 Sales - Temperature (Scatter Plot)

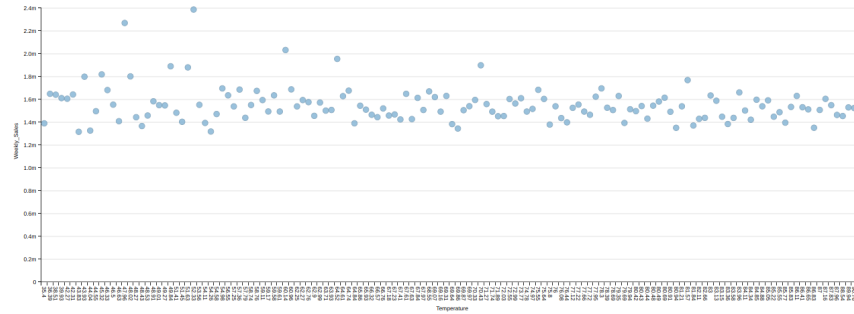


Figure 2: Passenger Share By Class 1, 2 & 3 (Pie chart)

Average Fuel Price For Each Store In The Area (Bar Chart)

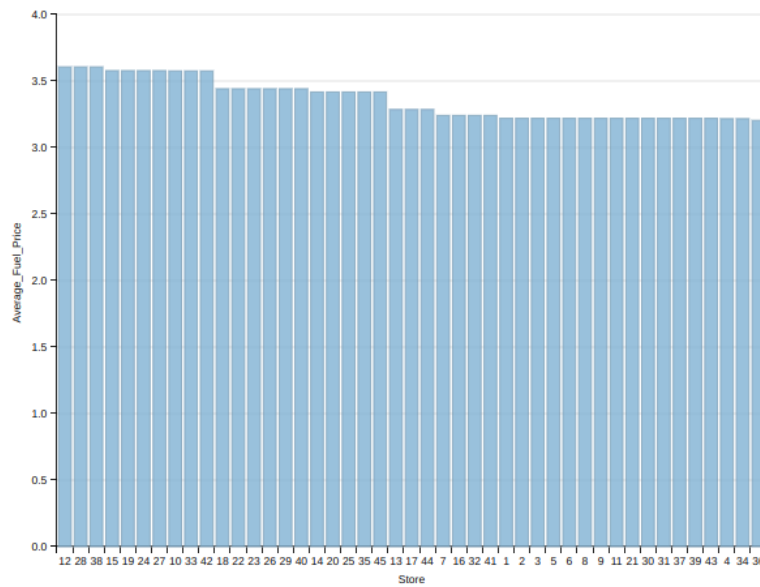


Figure 3: Survivors by Gender (Pie chart)

3 Conclusion

From this, we can draw the following conclusions:

- As can be seen from Figure 1, store 20 had the highest sales, accounting for 4% of all store sales (301m); store 33 had the lowest sales, accounting for 1% of all store sales (37m).
- As can be seen from Figure 2, there is a strong linear relationship between temperature and weekly sales. We can roughly draw a conclusion from the chart: Although the higher temperature will not cause a significant increase or decrease in sales, it will make sales become stable (the points deviating far from the regression line will decrease).
- As can be seen from Figure 3, shop 12 has the highest average fuel price at 3.6 per unit. Store 36 has the lowest average fuel price at 3.2 per unit. In combination with Figure 1, it can be concluded that under normal circumstances, the sales volume of stores in places with high fuel prices is not high. It can be seen that under the influence of high fuel prices, the consumption desire of local residents is not high.