

Misleading results

Data Analysis

BingAI : Tenure per department

Tenure Analysis:

Tenure Analysis

```
df['Joining Date'] = pd.to_datetime(df['Joining Date'])
df['Tenure'] = (datetime.now() - df['Joining Date']).dt.days / 365.25 # in years
avg_tenure = df['Tenure'].mean()
print(f"Average Tenure: {avg_tenure} years")
```

Gives back average tenure in the whole firm instead of the tenure per department

Google Bard : Tenure per department

Tenure Analysis

```
average_tenure = df['Joining Date'].apply(lambda x: pd.Timestamp.today() - pd.Timestamp(x)).mean()
print('Average tenure of employees in the company:', average_tenure)
```

Gives back average tenure in the whole firm instead of the tenure per department

Google Bard

Query 3:

Okay based on this profit analysis can you now dive deeper and write Python code for me to see if giving a Discount ("Discount" column) has a positive or negative impact on the overall profit.

Sure, here is some Python code to analyze the impact of discounts on overall profit:

Python

```
import pandas as pd

# Read the CSV file into a Pandas DataFrame
df = pd.read_csv("orders.csv")

# Calculate the profit with discount
profit_with_discount = df['Profit'] * (1 - df['Discount'])
```

```

# Calculate the difference between profit with and without discount
profit_difference = df['Profit'] - profit_with_discount

# Calculate the average profit difference
average_profit_difference = profit_difference.mean()

# Print the average profit difference
print(f"Average profit difference: {average_profit_difference:.2f}")

# Interpret the average profit difference
if average_profit_difference > 0:
    print("Giving discounts has a negative impact on overall profit.")
elif average_profit_difference < 0:
    print("Giving discounts has a positive impact on overall profit.")
else:
    print("Giving discounts has no impact on overall profit.")

```

This code will print the average profit difference between orders with and without discounts. If the average profit difference is positive, then giving discounts has a negative impact on overall profit. If the average profit difference is negative, then giving discounts has a positive impact on overall profit. If the average profit difference is zero, then giving discounts has no impact on overall profit. It is important to note that this code is just a starting point. You may need to modify it to fit your specific needs. For example, you may want to filter the data to only include orders from a certain time period or region. You may also want to consider other factors that could affect profit, such as the cost of goods sold and marketing expenses.

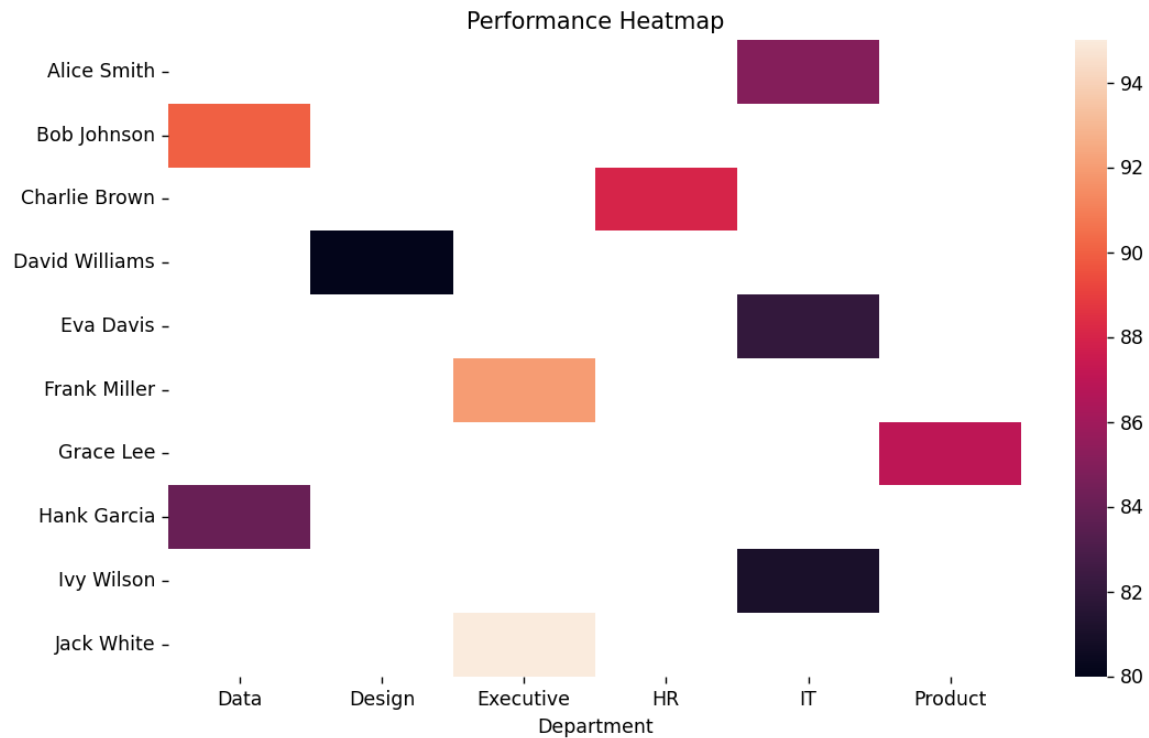
Output:

Average profit difference: -6.14
 Giving discounts has a positive impact on overall profit.

- Does not calculate the intended thing and result makes no sense based on the given calculation.
- With this calculation giving a discount will always have a negative impact
- Every other tool assumed that the discount is already taken into account in the profit column. And this is correct
- Cannot fix the error even when asked for it

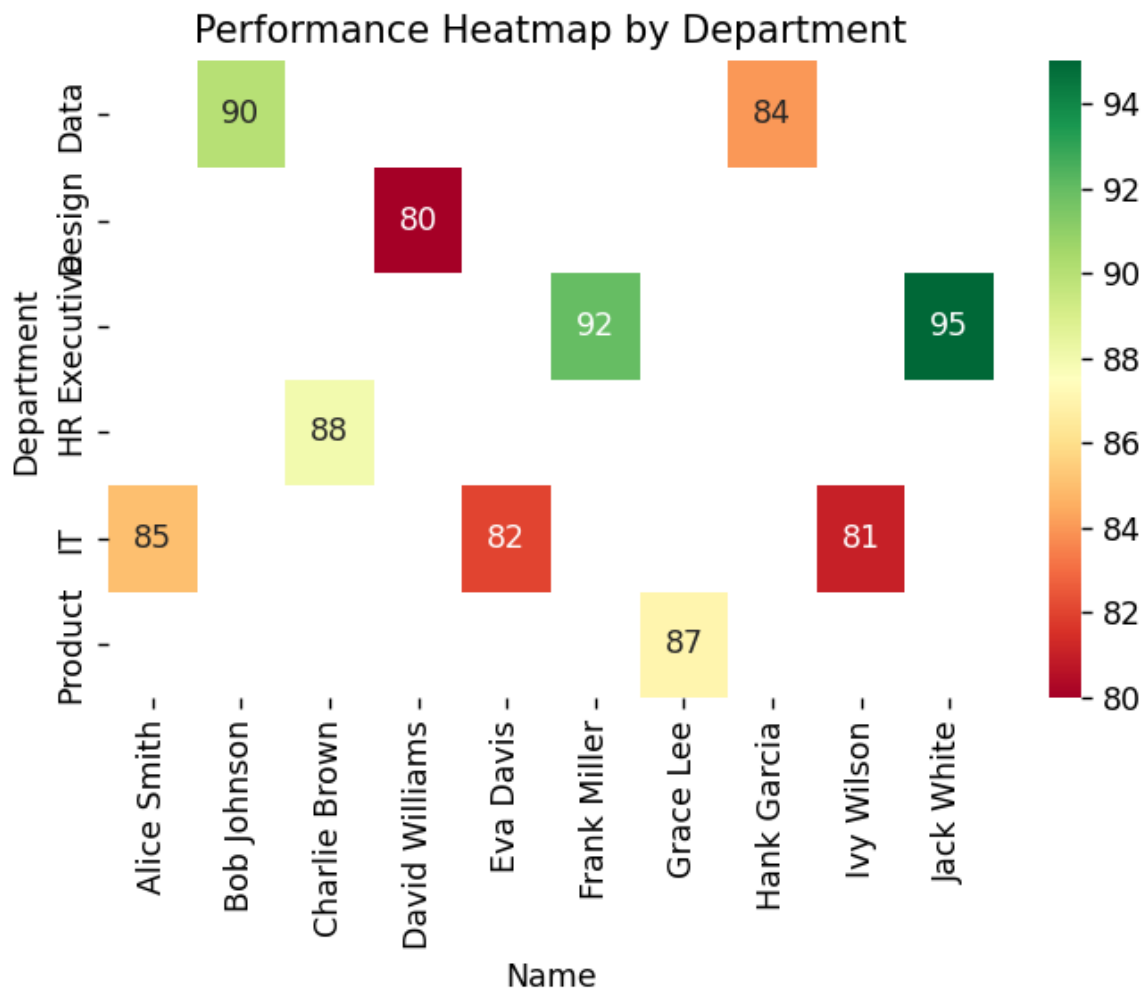
Data Visualization

BingAI : Performance Heatmap : asked to make a heatmap of the performance per department

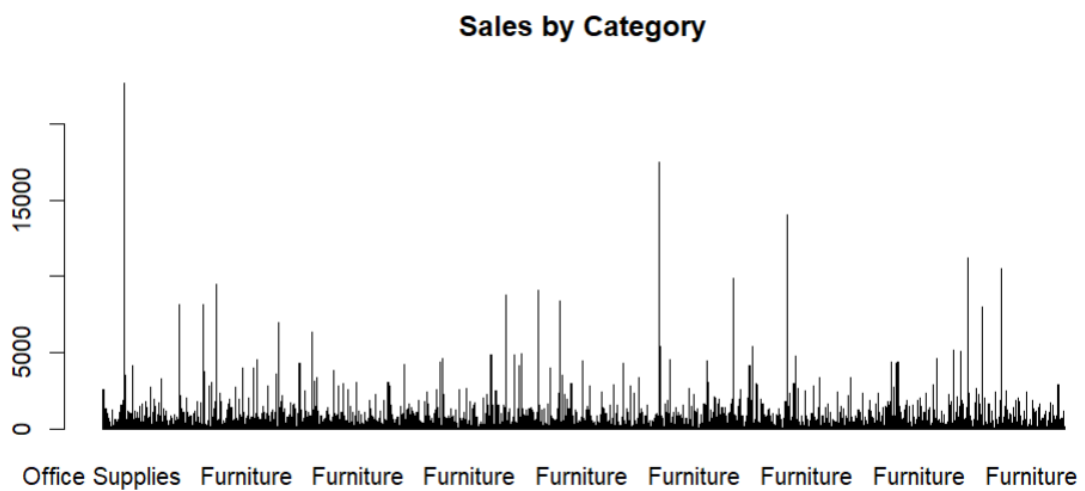


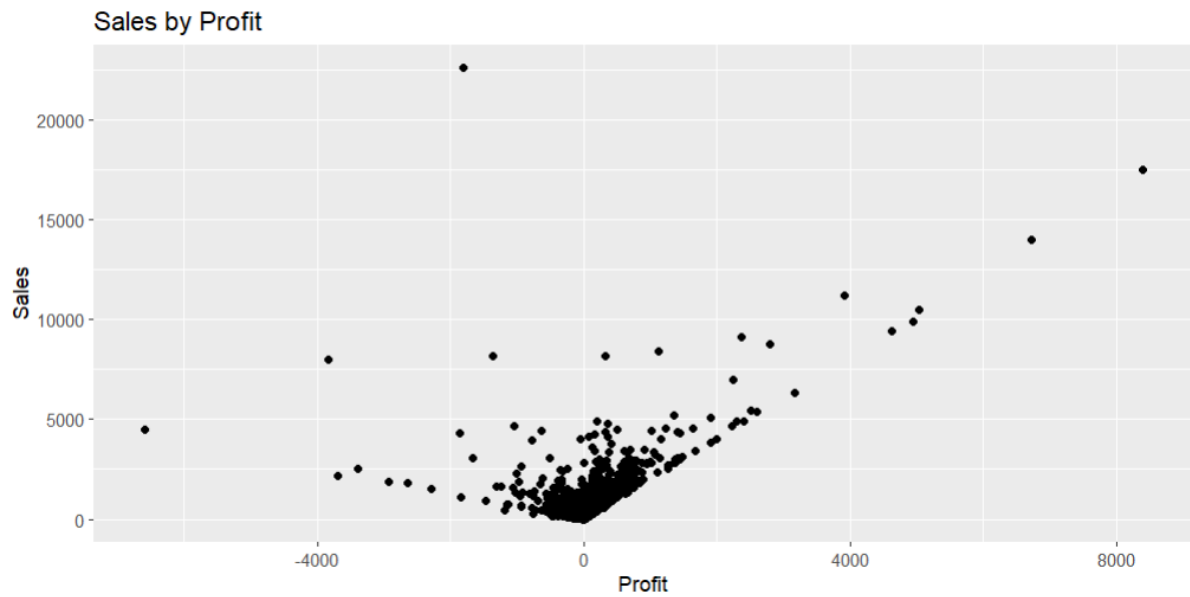
gives back a heatmap of performance per person

Google Bard: Performance Heatmap : calls the heatmap performance per Department but still has a heatmap per person



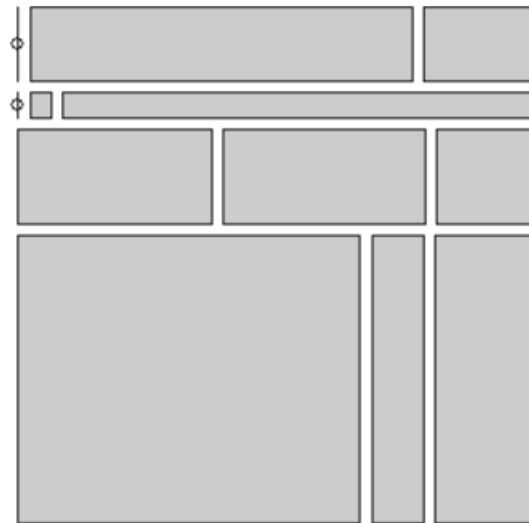
Google Bard:





Bing Chat:

Mosaic Plot of ShipMode vs ShipStatus



Ask to add labels:

```
contingency_table <- table(data$ShipMode, data$ShipStatus)

# Create a mosaic plot with labels
mosaic(contingency_table, main="Mosaic Plot of ShipMode vs ShipStatus",
        labeling = labeling_values)
Error in if (split_vertical[i]) { : missing value where TRUE/FALSE needed
```

Suggested fix:

```
if (!is.na(split_vertical[i]) && split_vertical[i]) {
  # Your code here
}
Error: object 'split_vertical' not found
```

To further work on the follwing Querys. I found a working diagram after a few queries

