

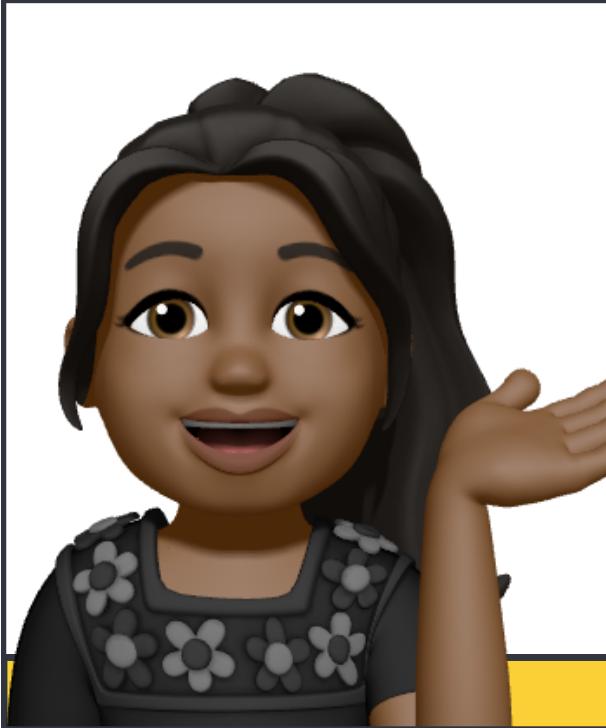
# INTERIM PROJECT: GROUP 2



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YAHYA



USHA



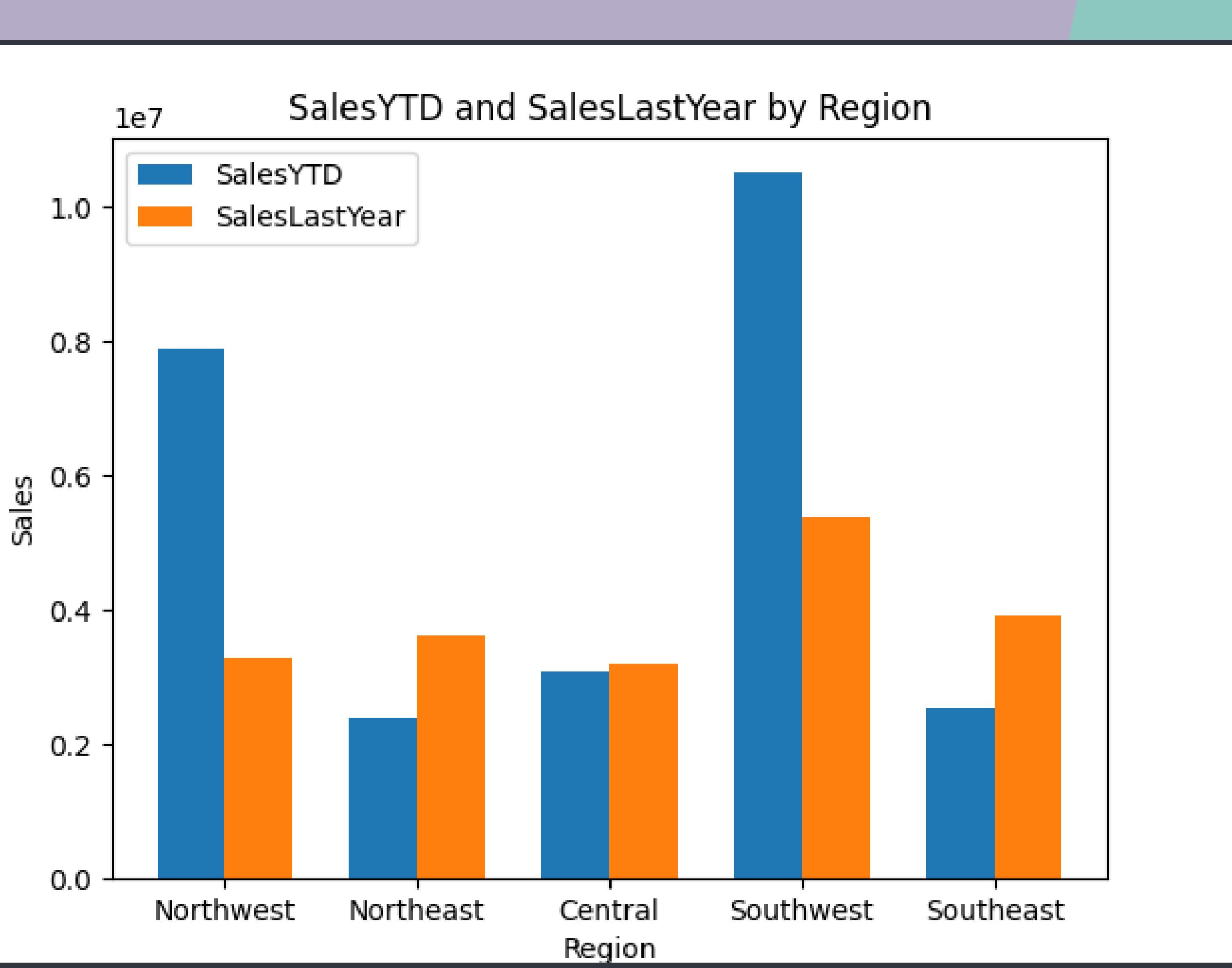
DIAA



OMAR



CHRISTIANA



SouthWest Central  
among highest  
Sales YTD

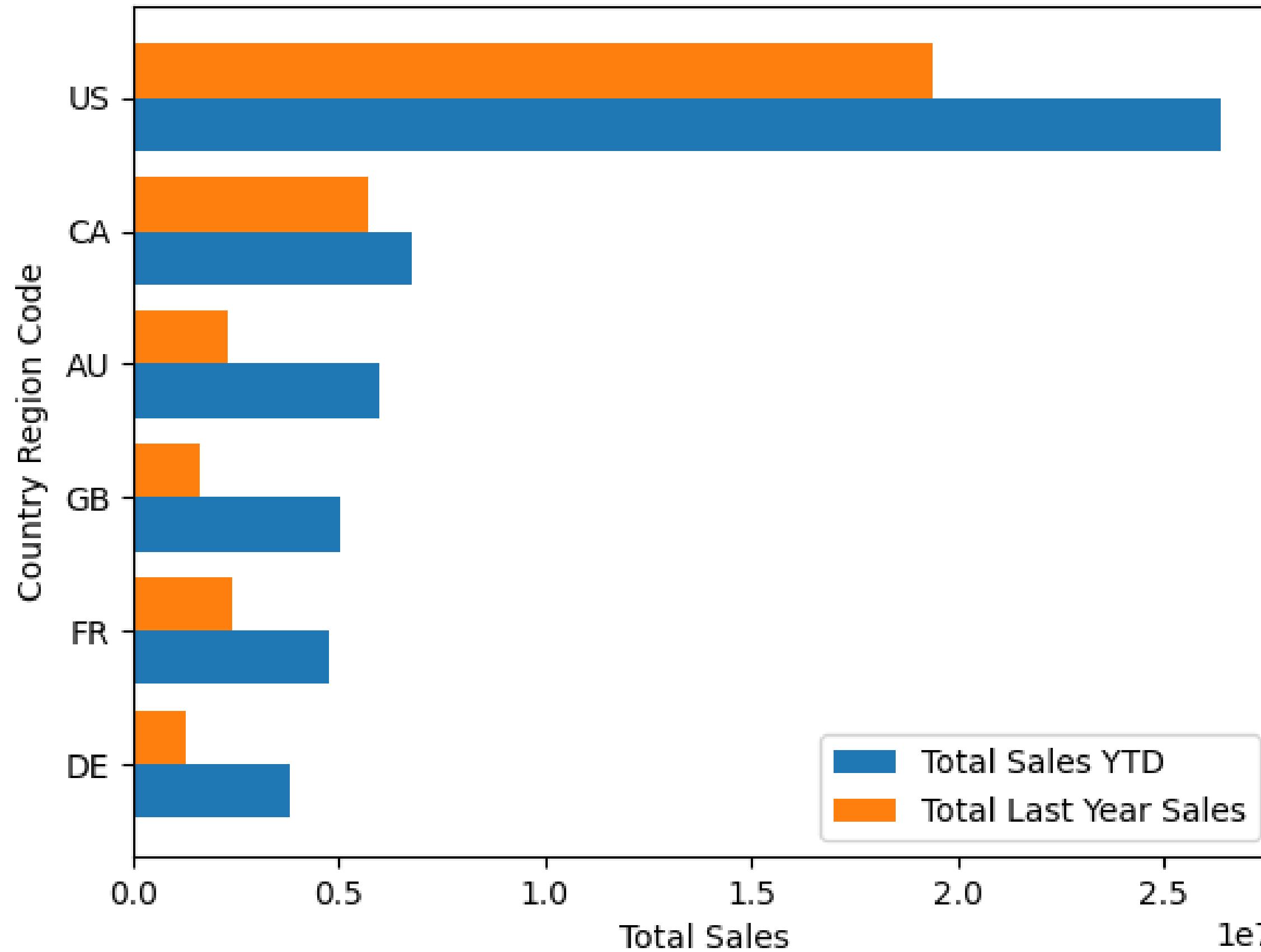
Followed closely  
by the Northwest  
Region

North east and  
Central had among  
the worst Sales  
performances

**Q1: WHAT ARE THE  
REGIONAL SALES IN  
THE BEST  
PERFORMING  
COUNTRY?**

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## Total Sales Comparison



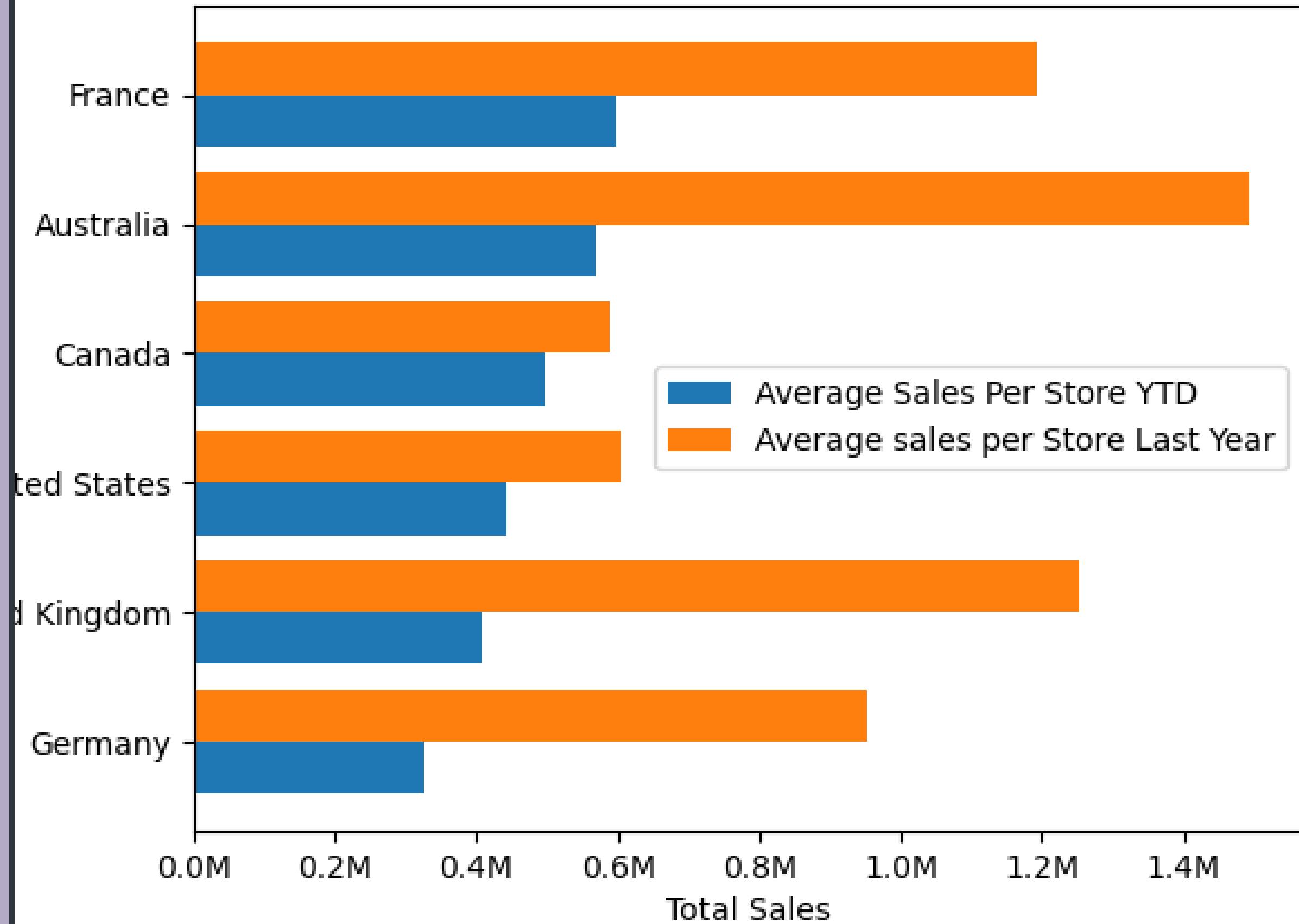
USA Sales was highest among the countries

USA sales 5x sales vs other countries

**Q3: WHAT IS THE  
RELATIONSHIP  
BETWEEN COUNTRY  
AND REVENUE?**

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## Total Sales Comparison



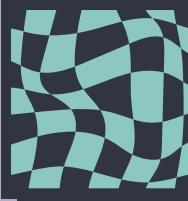
Accounting for the  
number of  
stores...

France highest  
Sales this year

Australia was the  
highest Last Year

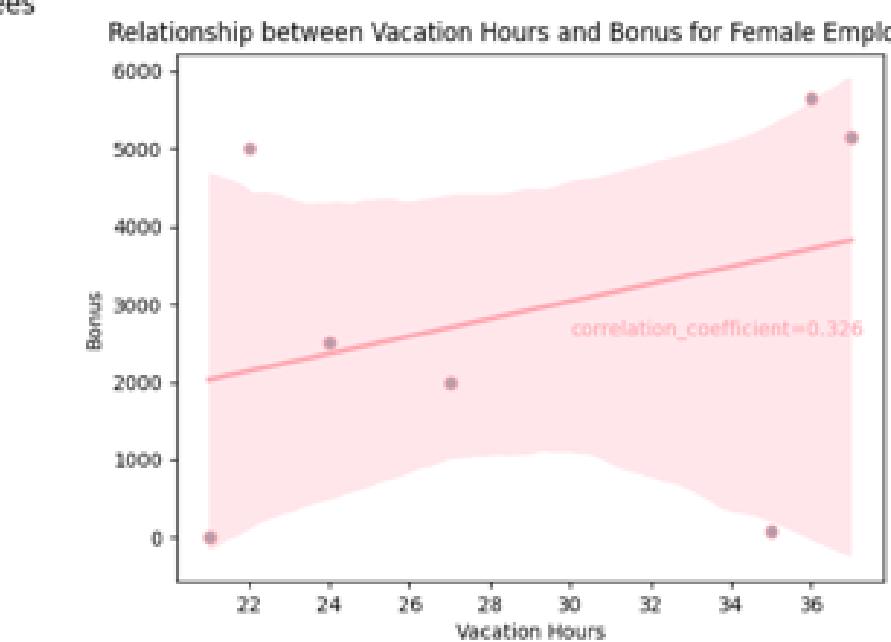
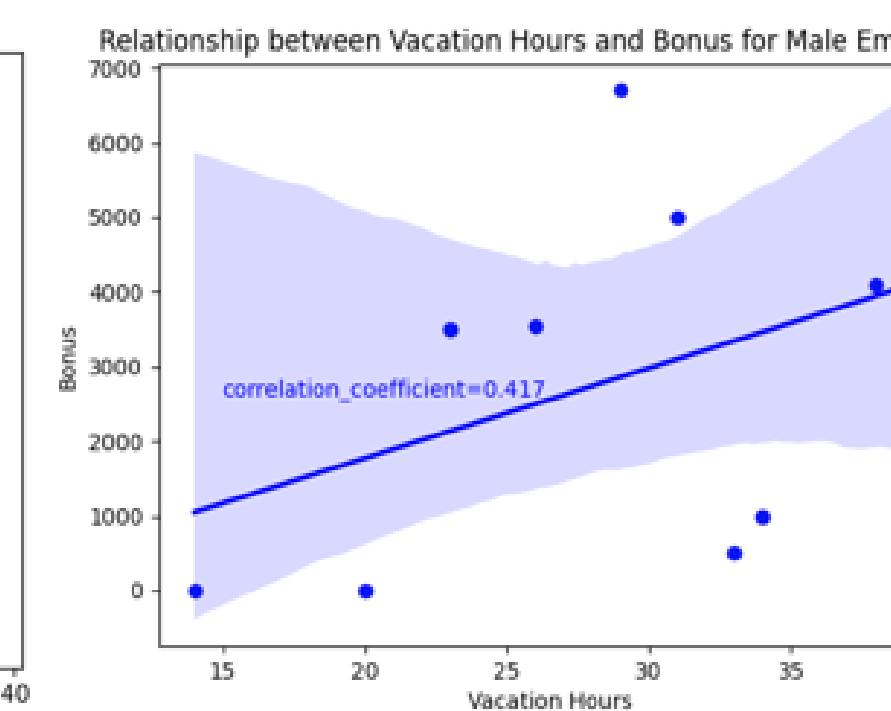
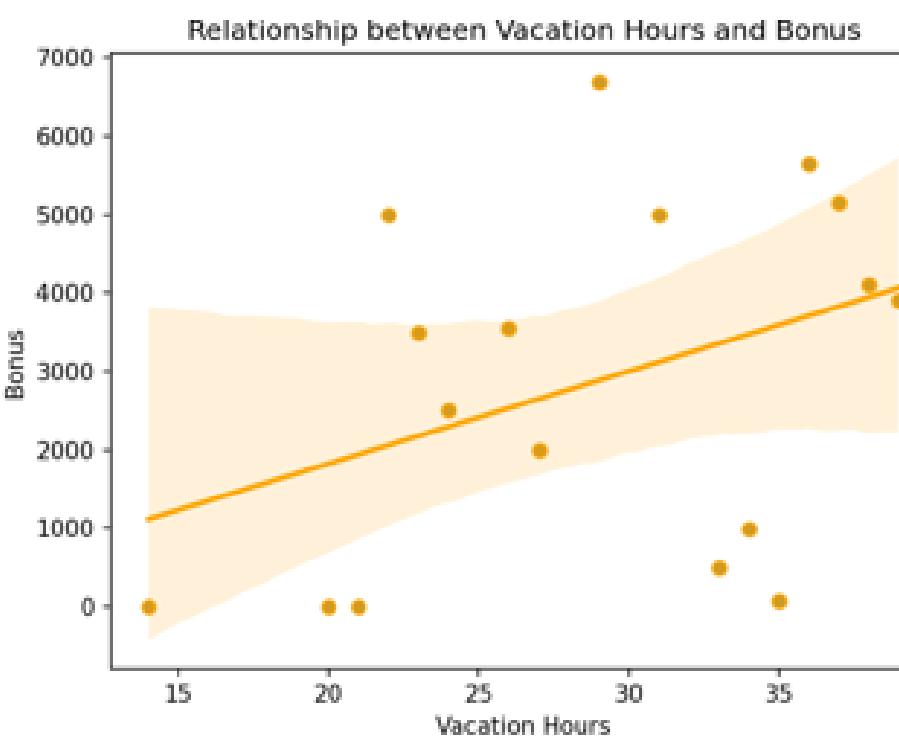
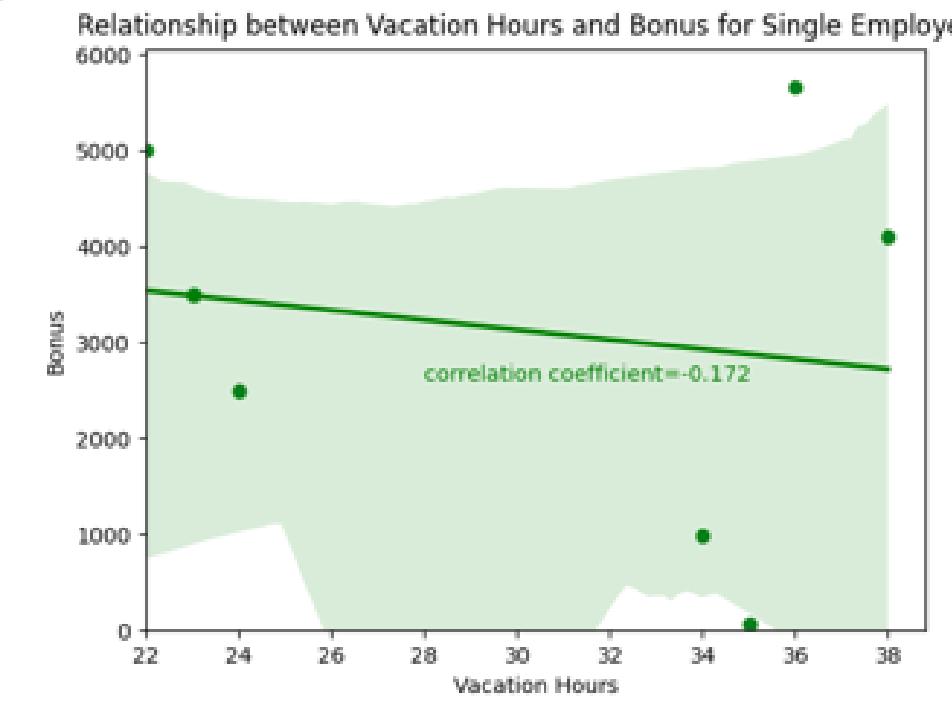
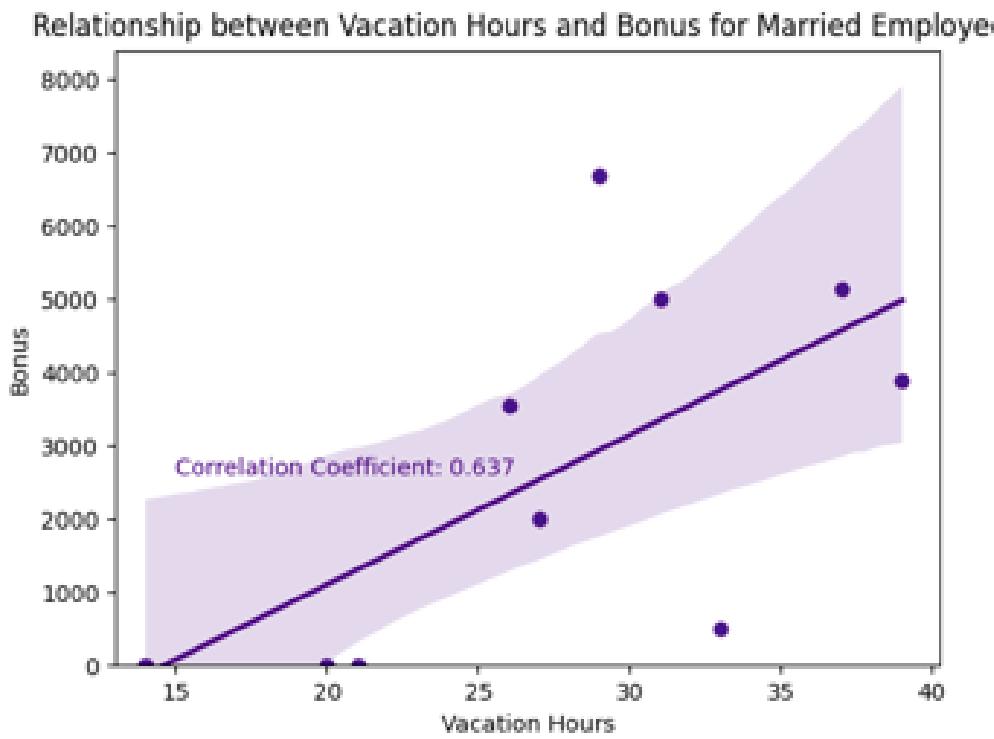
Q3: WHAT IS THE  
RELATIONSHIP  
BETWEEN COUNTRY  
AND REVENUE?

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## DATA ANALYTICS PROGRAM



**Married Employees:**  
Outliers created a false strong positive correlation; actual relationship is weak.

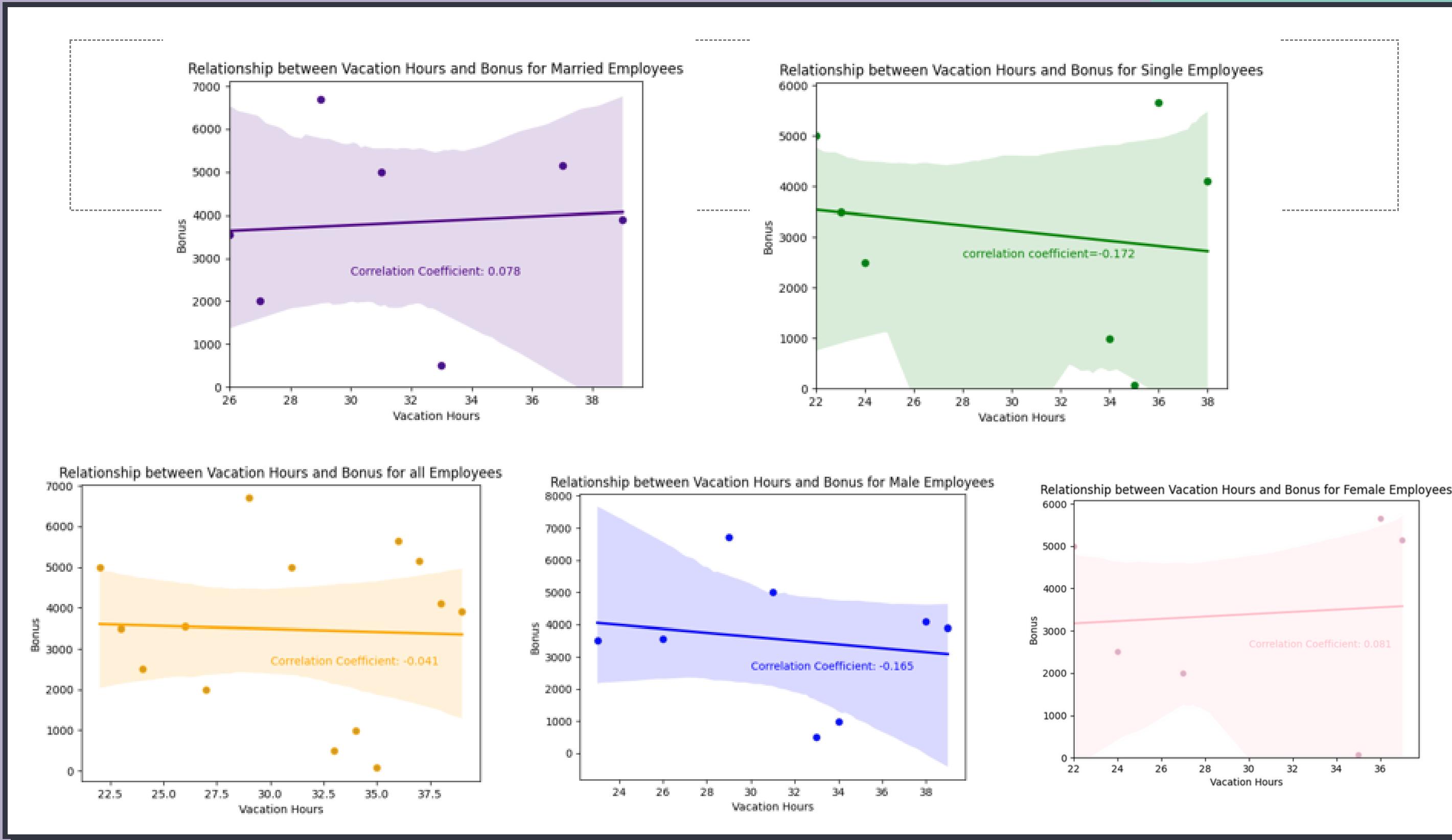
**All Employees:**  
Significant drop in correlation upon outlier removal, suggesting no substantial relationship between vacation and bonuses overall.

**Q2: WHAT IS THE RELATIONSHIP BETWEEN ANNUAL LEAVE TAKEN AND BONUS?**



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## DATA ANALYTICS PROGRAM



**Single Employees:**  
Consistent negative correlation in both sets indicating an unexplained internal policy or external factor.

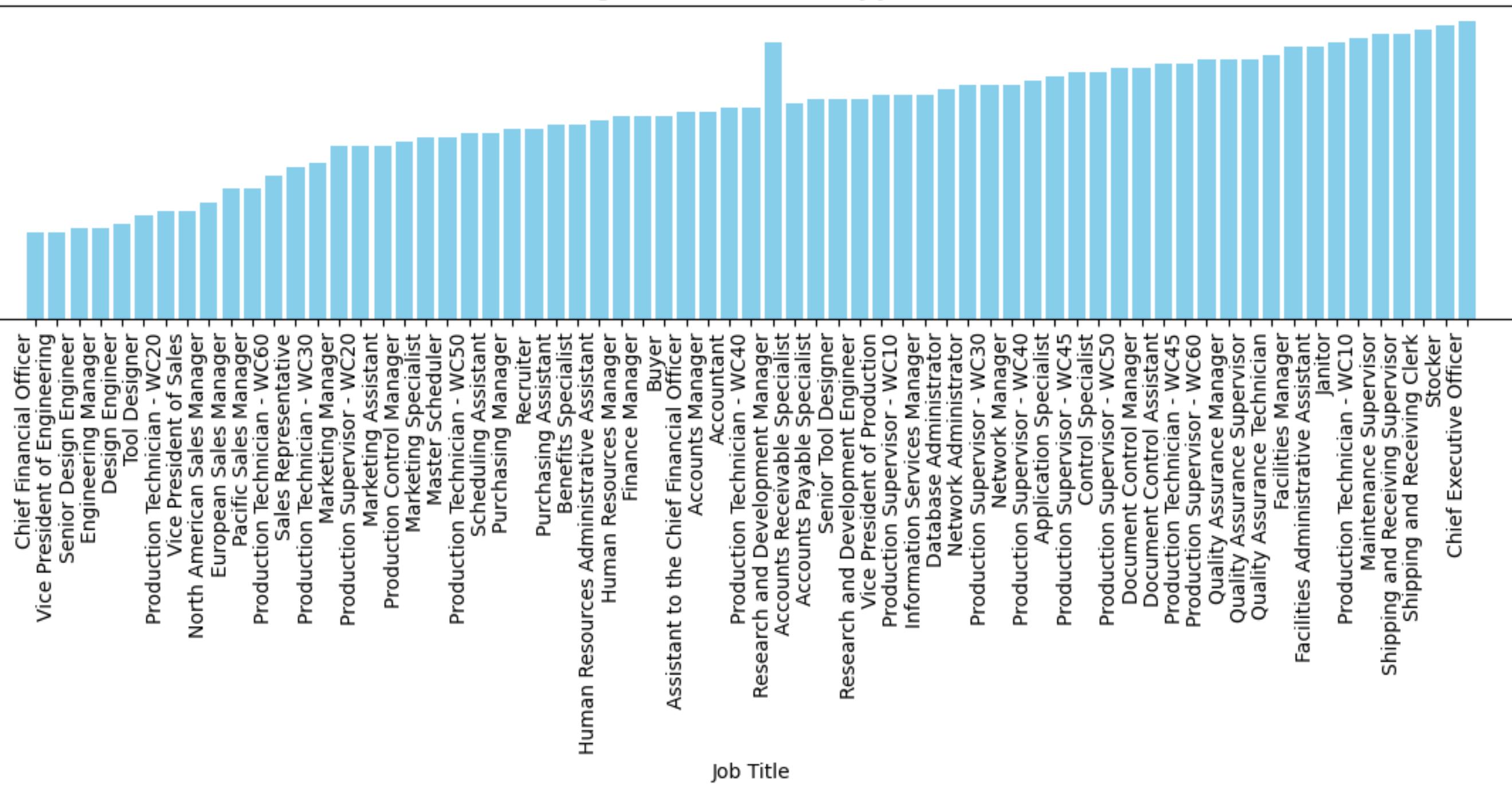
**Gender Analysis:**  
Initial moderate positive correlations for both males and females dissolve into weak correlations when outliers are removed.

Highlighting the importance of being cautious of outlier influence in gender-related analyses.

# Main takeaway

- **Data Integrity:** The presence of outliers can drastically skew the interpretation of data trends.
- Emphasising the need for caution when discovering apparent unexplained correlations in data.

### Average Sick Leave Hours by Job Title

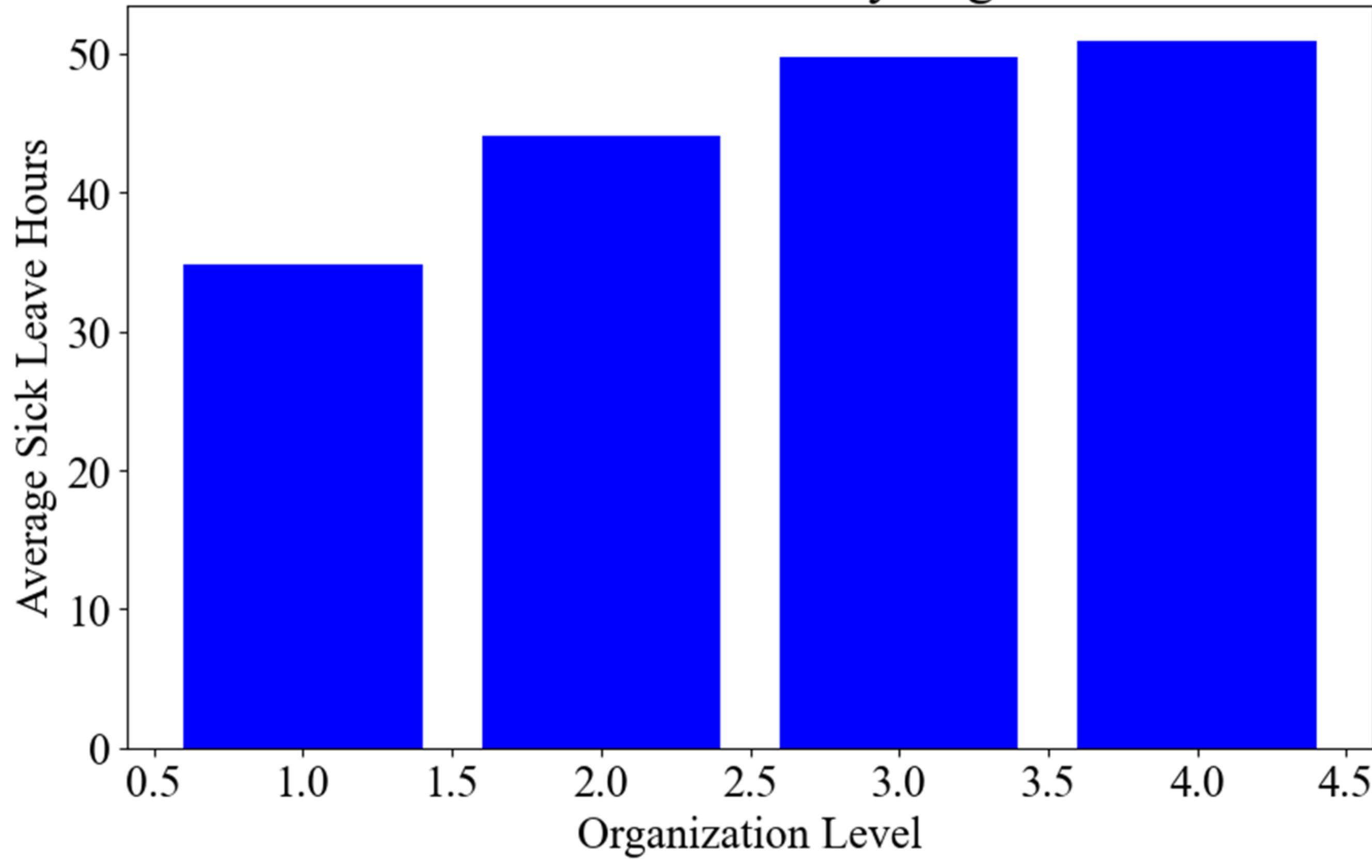


Original  
question  
outcome

**Q4: WHAT IS THE  
RELATIONSHIP  
BETWEEN SICK LEAVE  
AND JOB TITLE?**

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## Barchart of Sick Leave Hours by Organization Level



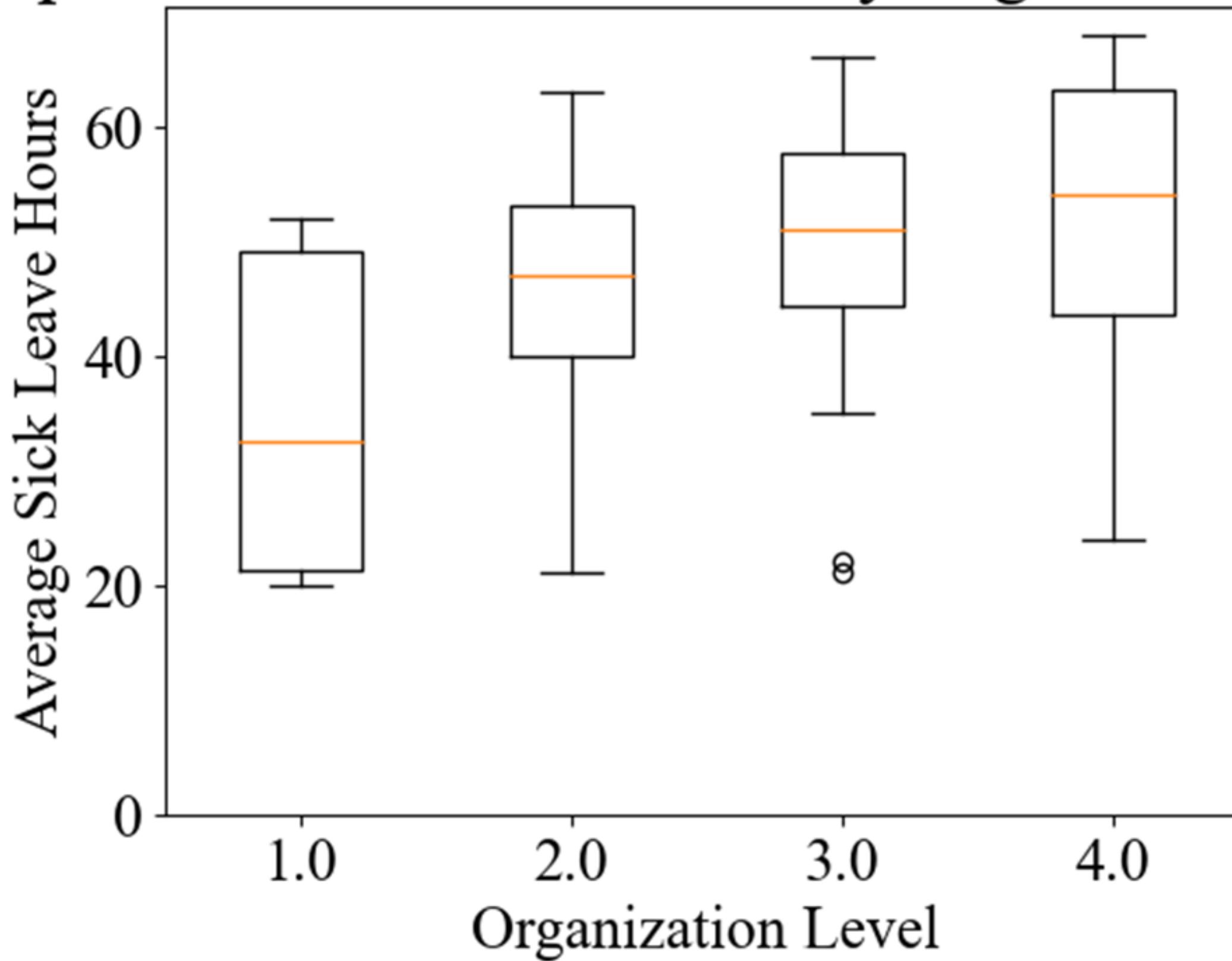
Performed important SQL queries to obtain the 'jobtitle' and 'sickleavehours'

After which used Python to plot box plot and bar charts.

**Q4: WHAT IS THE  
RELATIONSHIP  
BETWEEN SICK LEAVE  
AND JOB TITLE?**

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# Boxplot of Sick Leave Hours by Organization Level

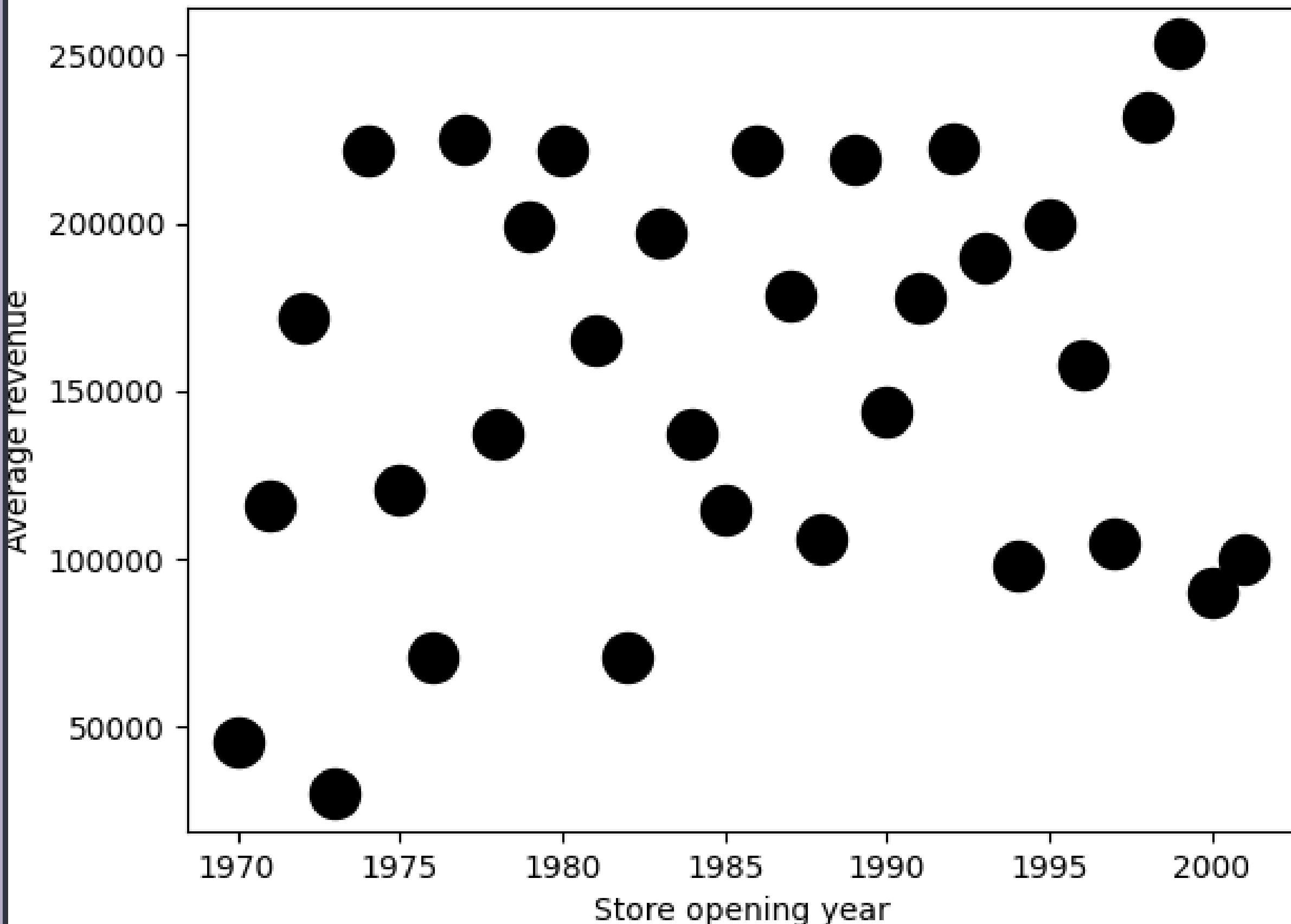


Major conclusion is that the Production Technician WC 40 Job category took more sick leave, and the Chief financial officer Job category took the least number of sick leaves.

**Q4: WHAT IS THE  
RELATIONSHIP  
BETWEEN SICK LEAVE  
AND JOB TITLE?**

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### Trade duration vs average revenue



- Trading duration vs average revenue
- As more stores opened over time. revenue increased
- Correlation: 0.221
- 1973 vs 1999

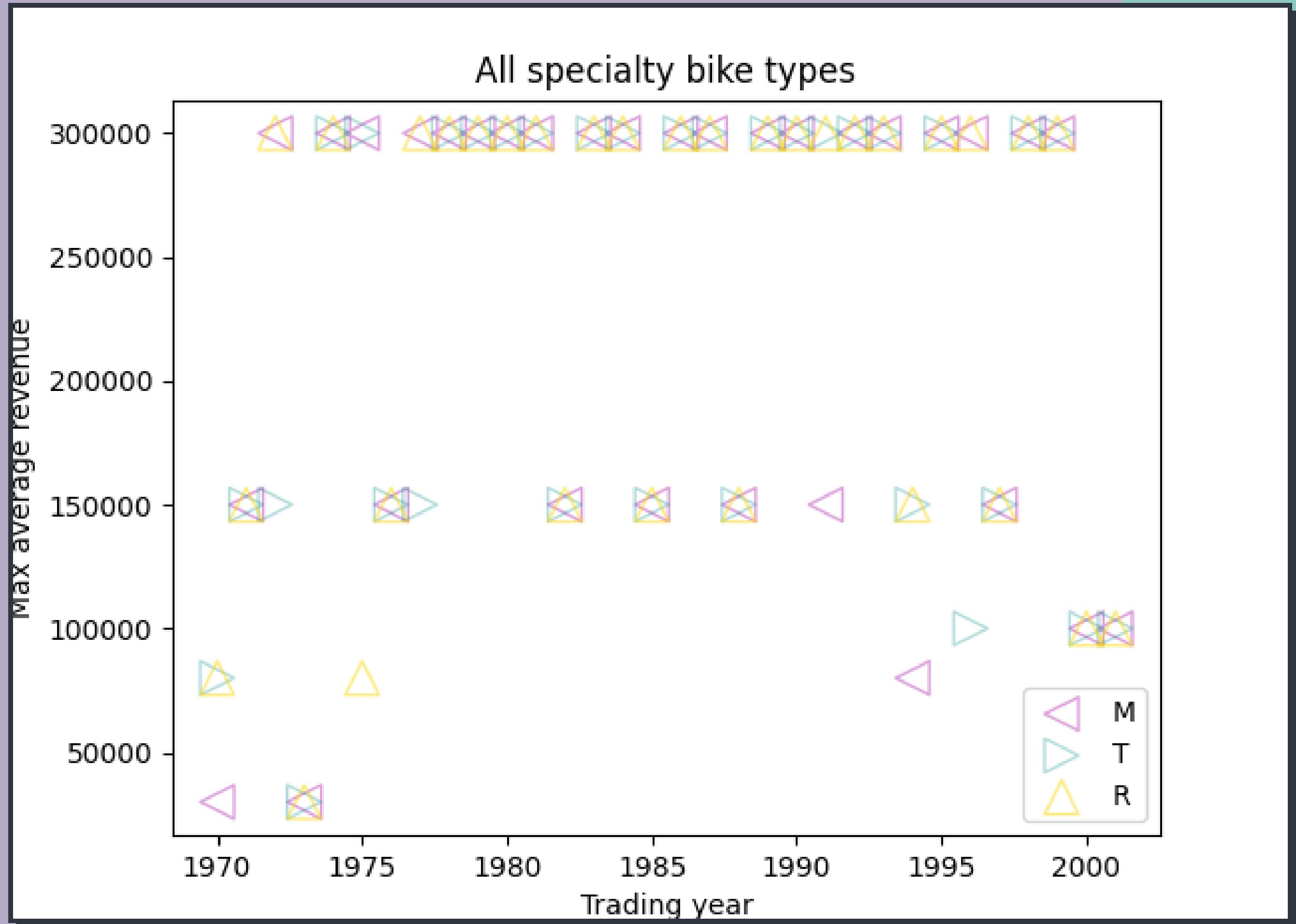
Q5: WHAT IS THE  
RELATIONSHIP  
BETWEEN STORE  
TRADING DURATION  
AND REVENUE?

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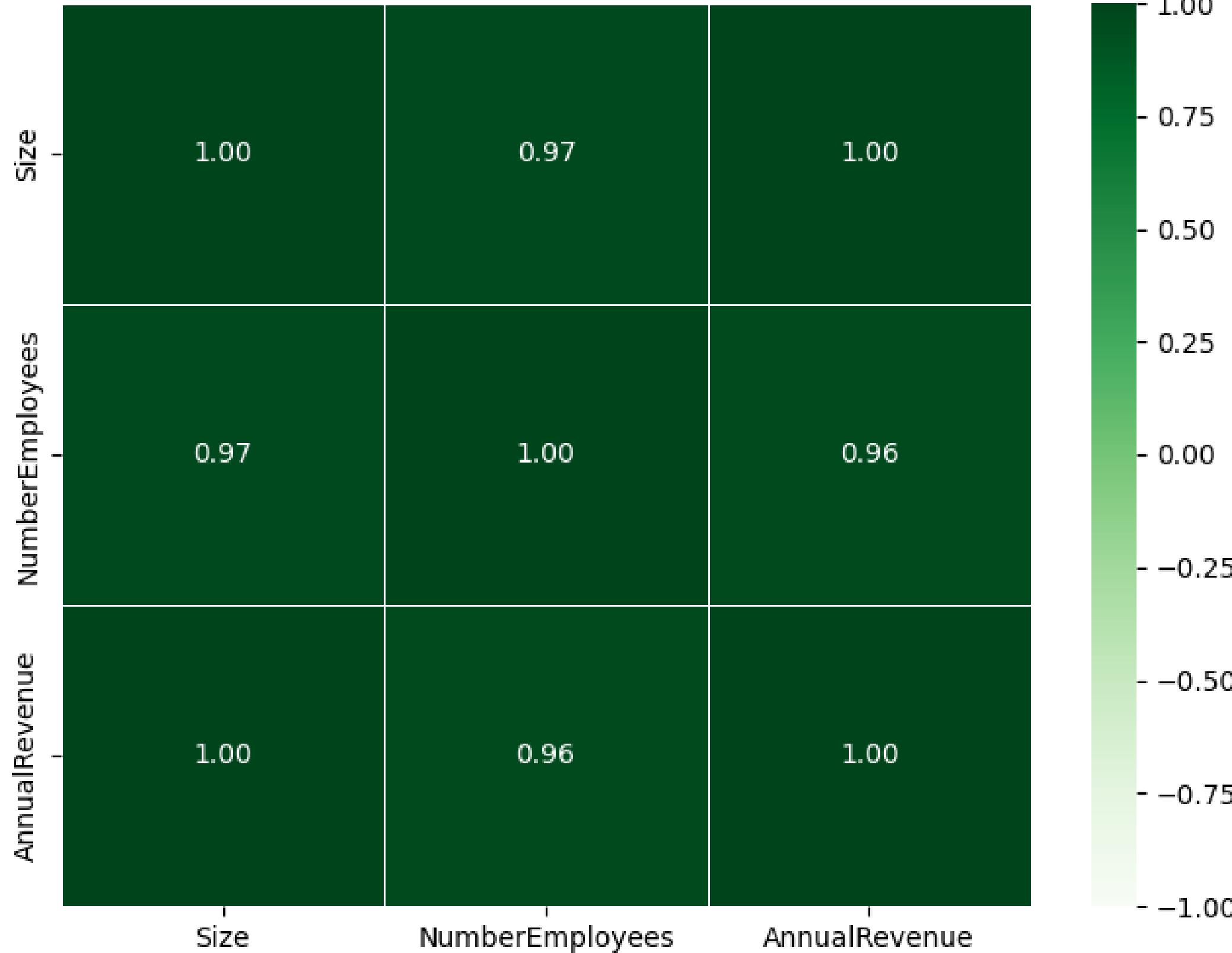
- Correlation between bike groups and average revenue
- Overlapping values

**Q5: WHAT IS THE  
RELATIONSHIP  
BETWEEN STORE  
TRADING DURATION  
AND REVENUE?**

**DA-LONG**



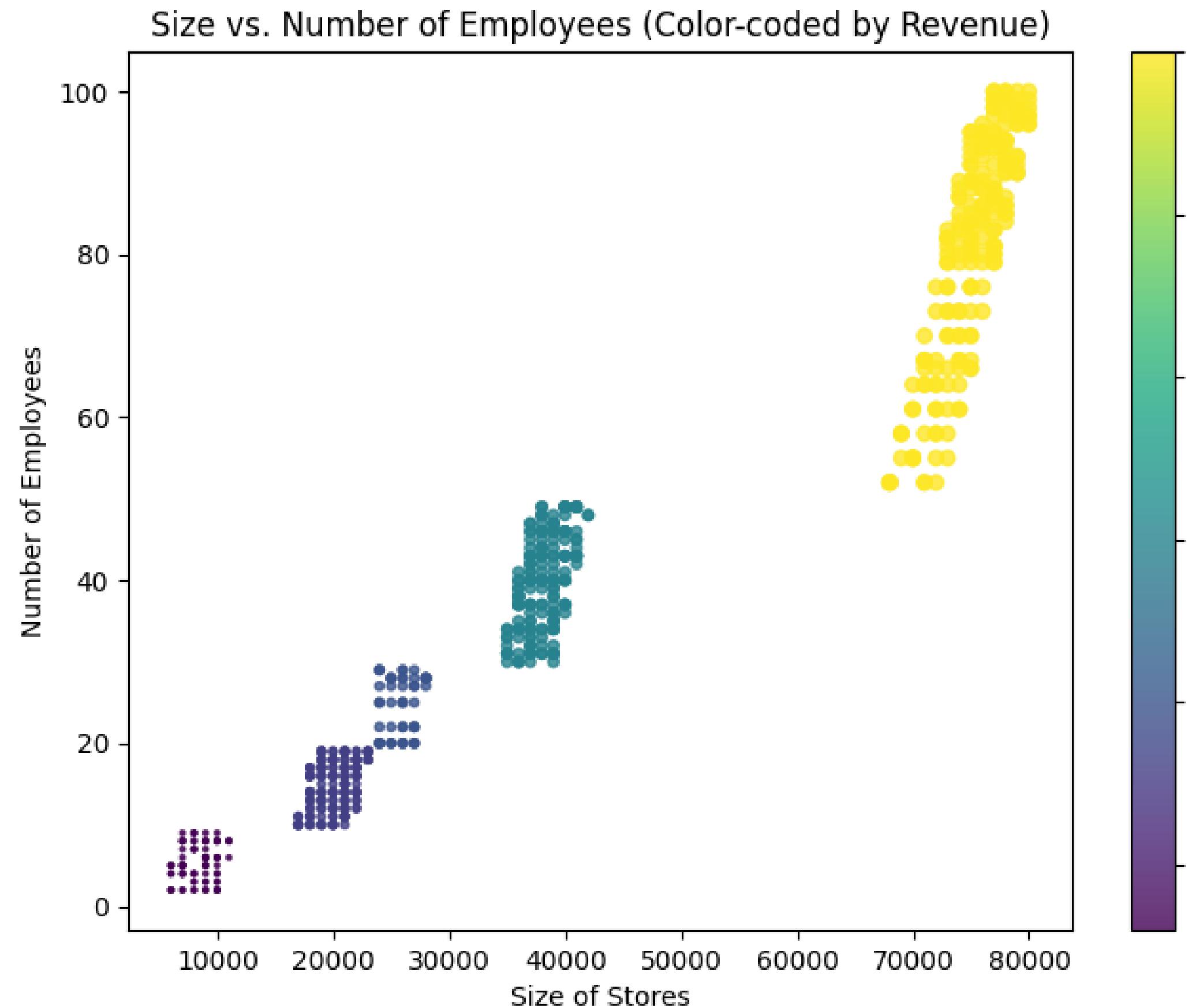
### Correlation Matrix Heatmap



The data indicates Perfect correlations between store size, the number of employees, and annual revenue.

**Q6: WHAT IS THE RELATIONSHIP BETWEEN SIZE OF STORES, NUMBER OF EMPLOYEES AND REVENUE?**

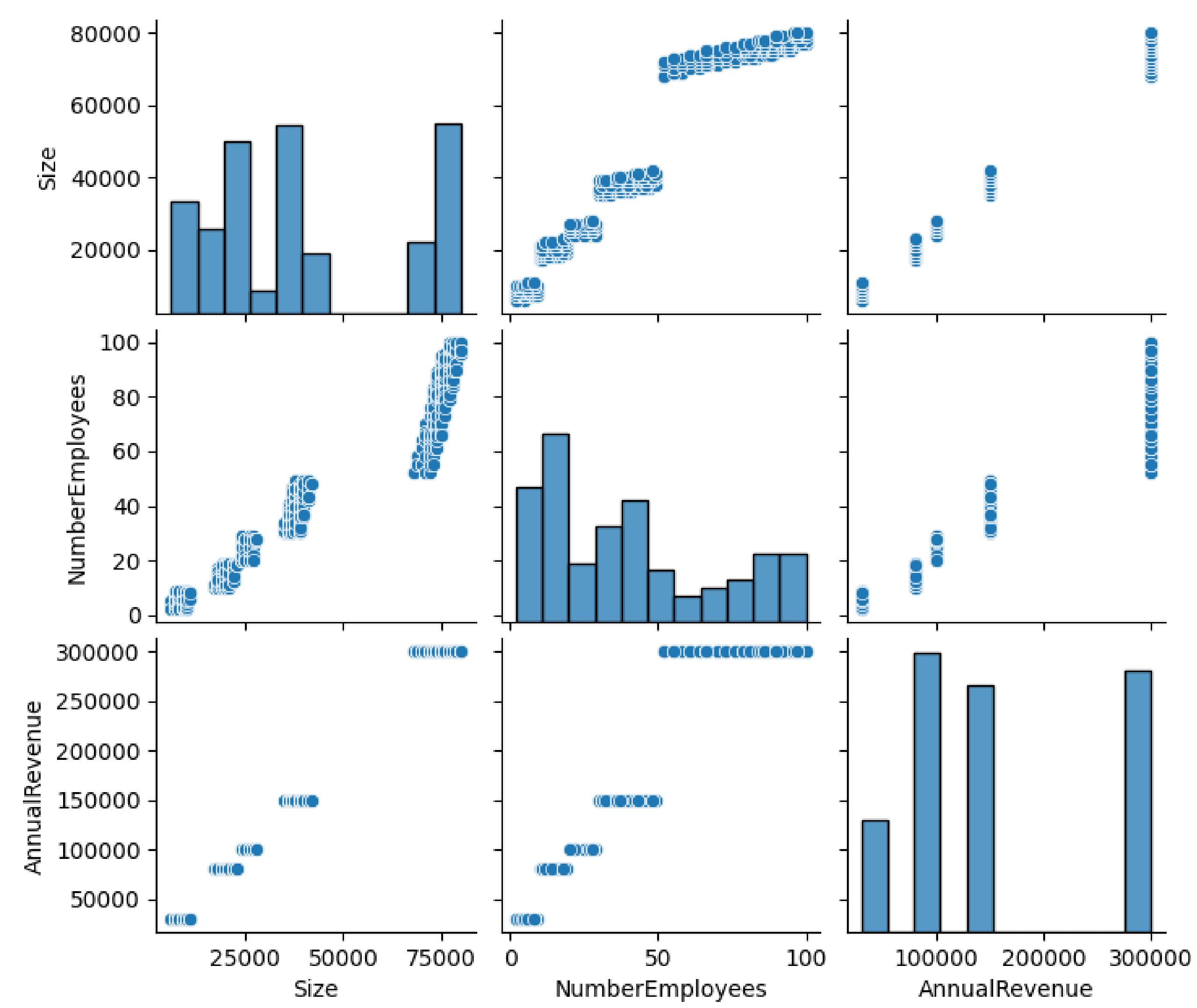
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As the size of the store increases, the number of employees also tends to increase.

**Q6: WHAT IS THE RELATIONSHIP BETWEEN SIZE OF STORES, NUMBER OF EMPLOYEES AND REVENUE?**

**DA-LONG**



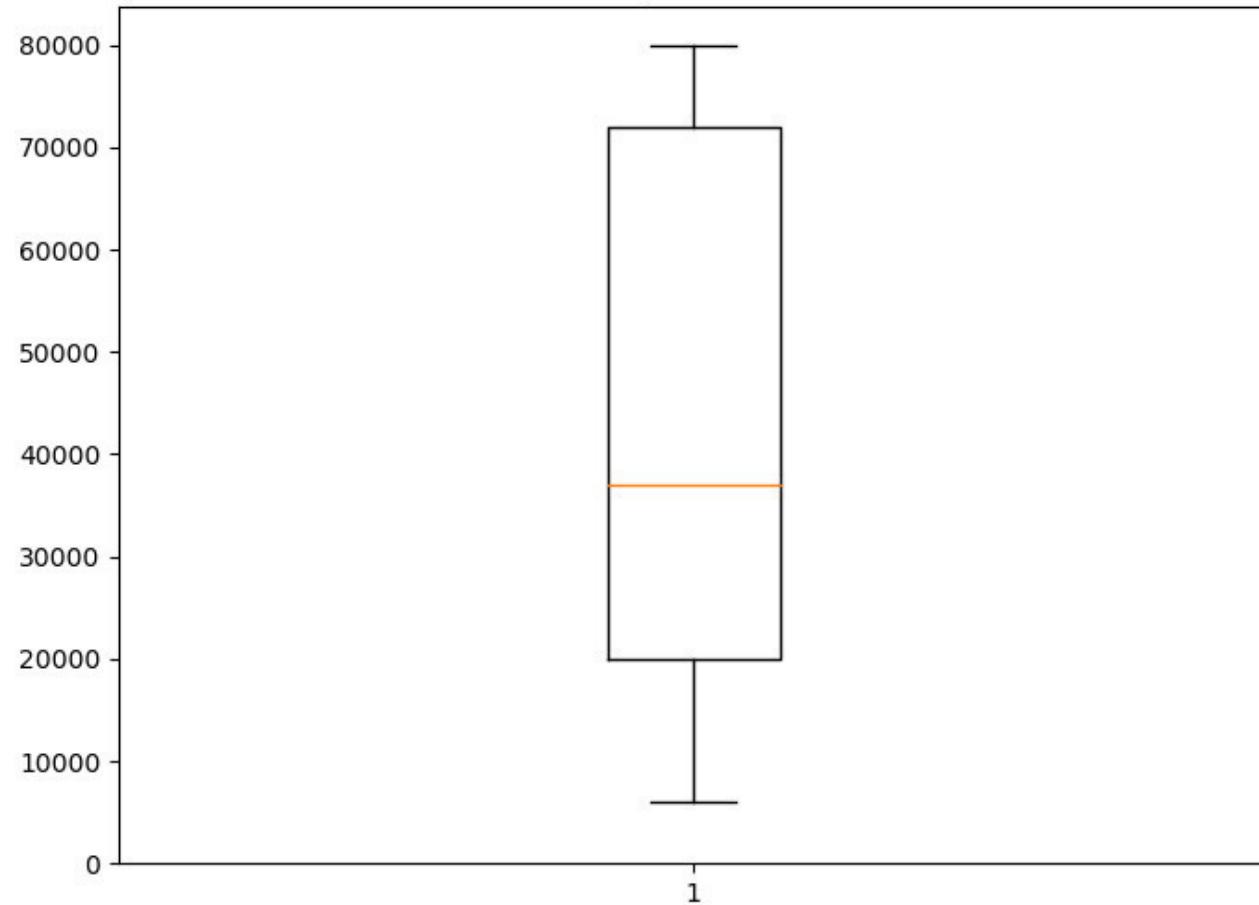
Larger stores tend to generate higher annual revenues

Stores with more employees tend to generate higher annual revenues

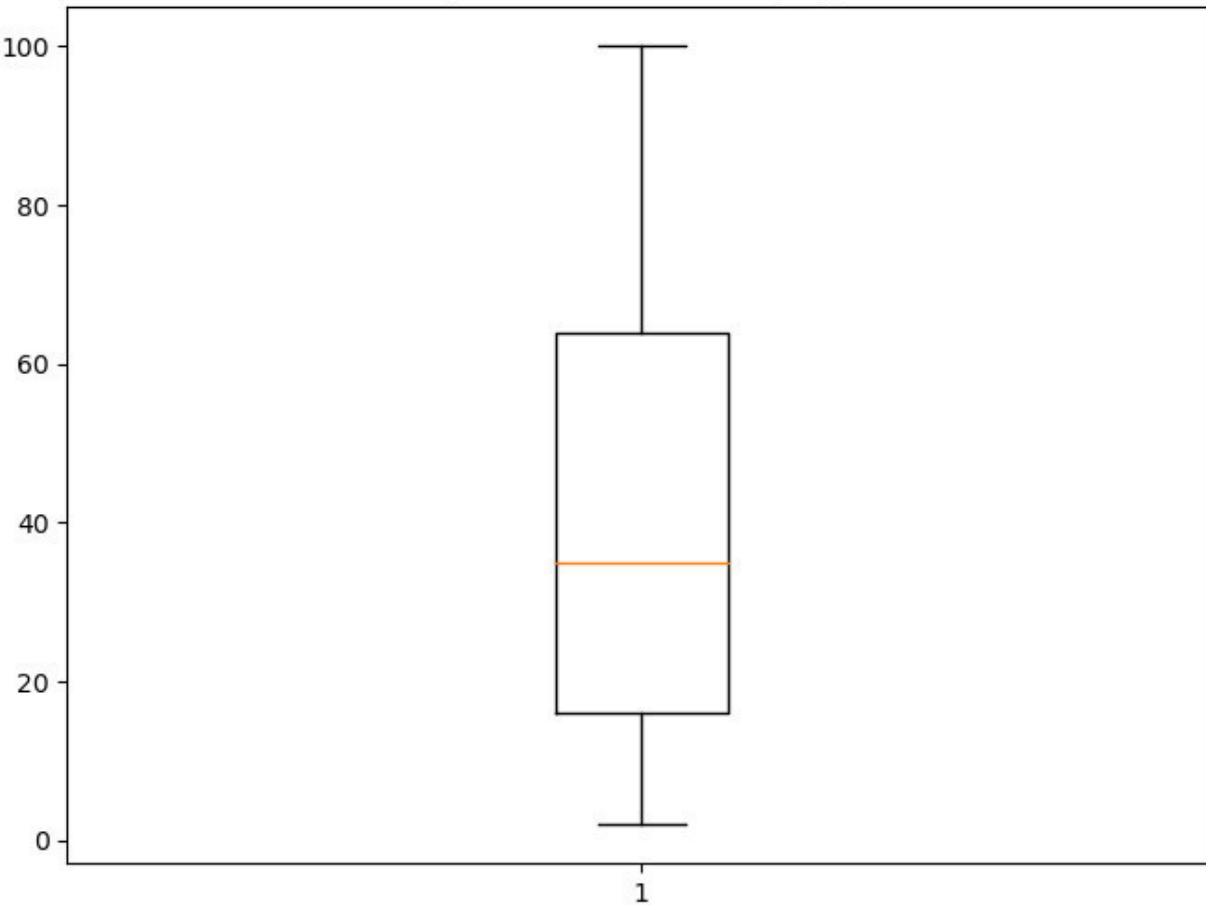
**Q6: WHAT IS THE RELATIONSHIP BETWEEN SIZE OF STORES, NUMBER OF EMPLOYEES AND REVENUE?**

**DA-LONG**

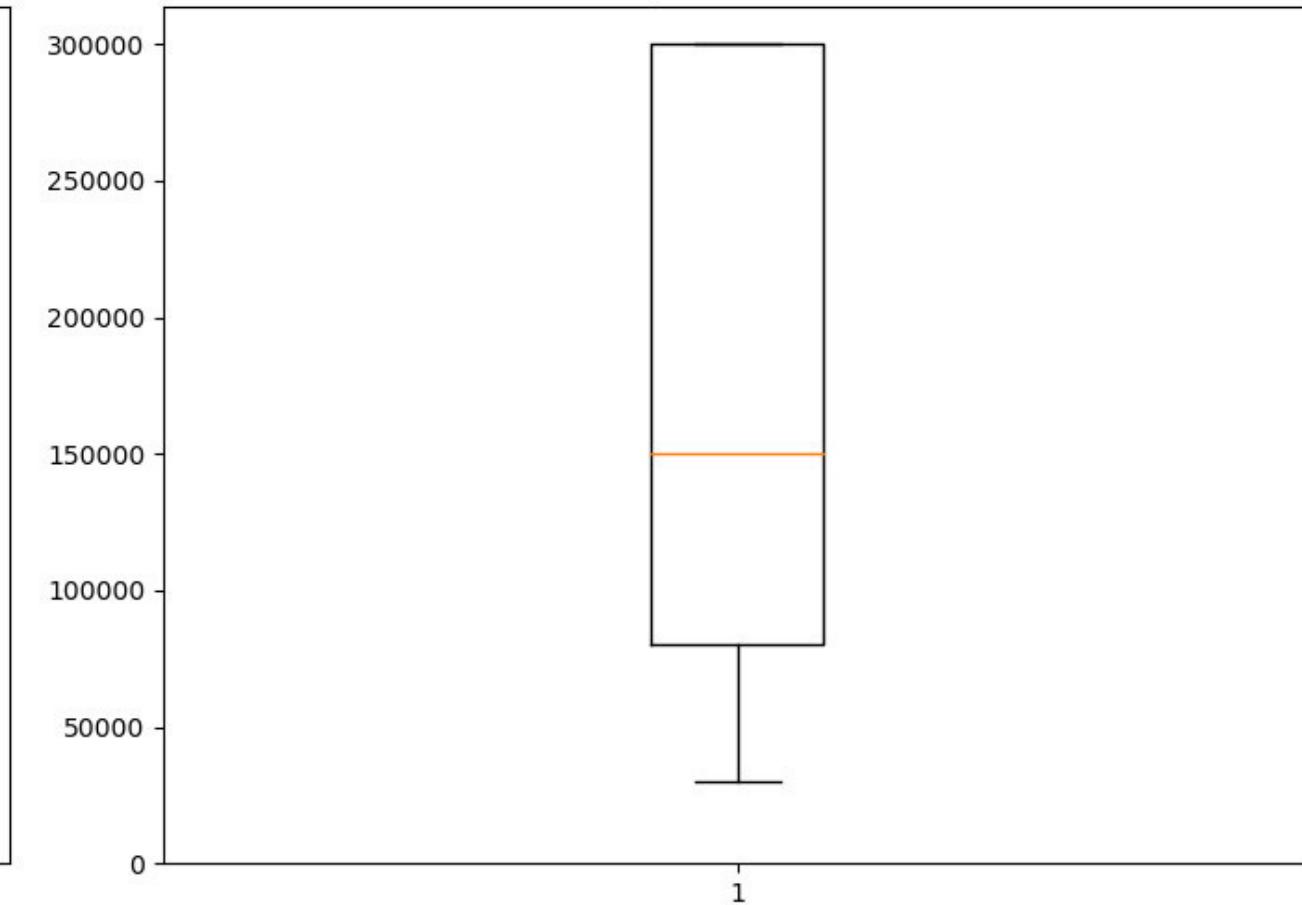
Boxplot of Size



Boxplot of Number of Employees

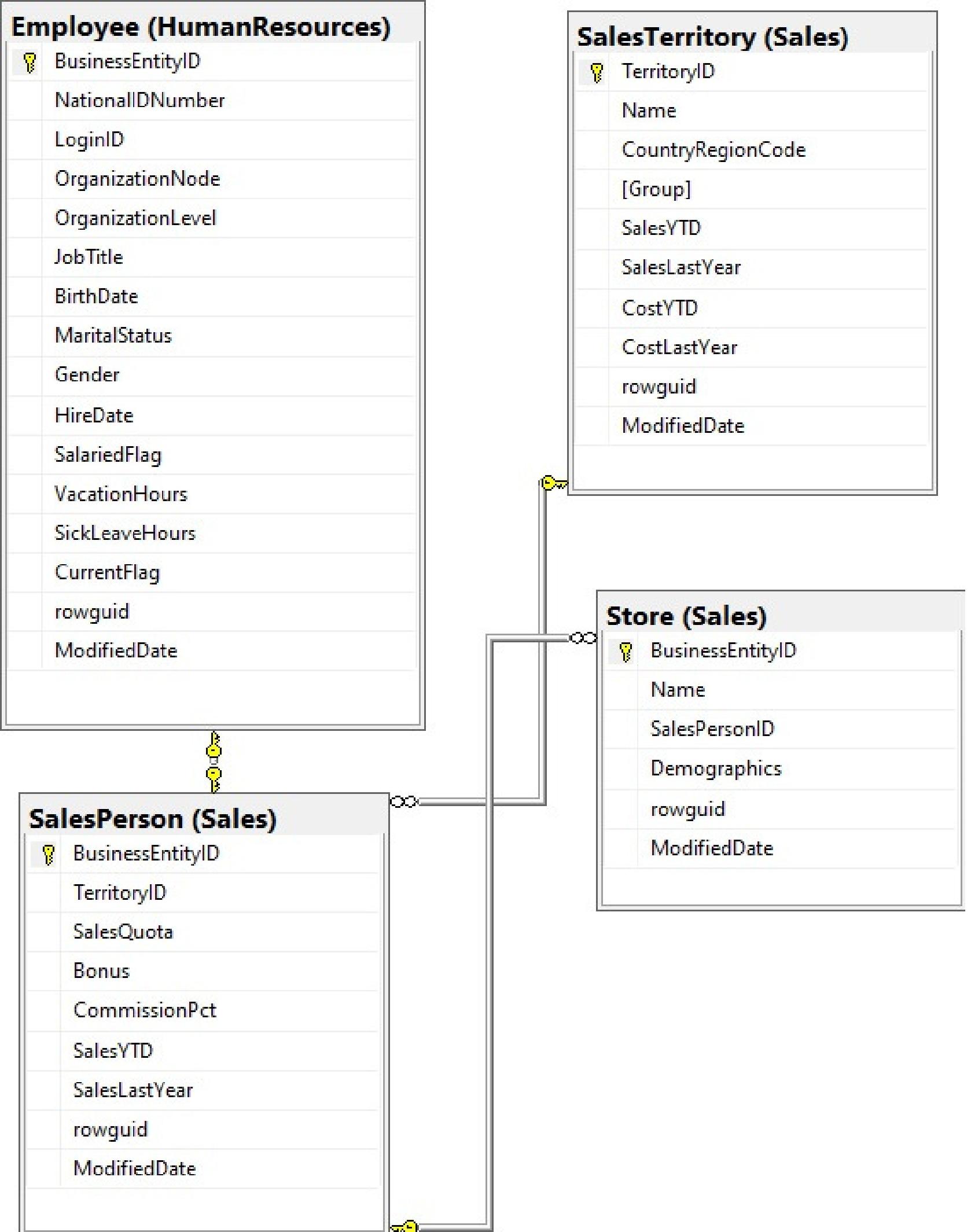


Boxplot of Revenue



Q6: WHAT IS THE  
RELATIONSHIP  
BETWEEN SIZE OF  
STORES, NUMBER OF  
EMPLOYEES AND  
REVENUE?

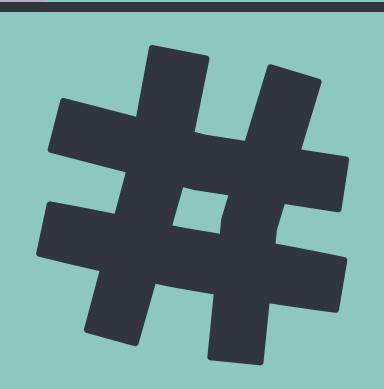
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**TABLES USED  
(ADVENTUREWORKS  
2019)**

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# THANK YOU



## TOOLS

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SQL  
PYTHON  
CANVA  
A WHOLE LOT OF GOOGLE +  
CHAT GPT :)

ANY QUESTIONS?

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