Data Analyst Capstone

May 2025 A.Dobbs
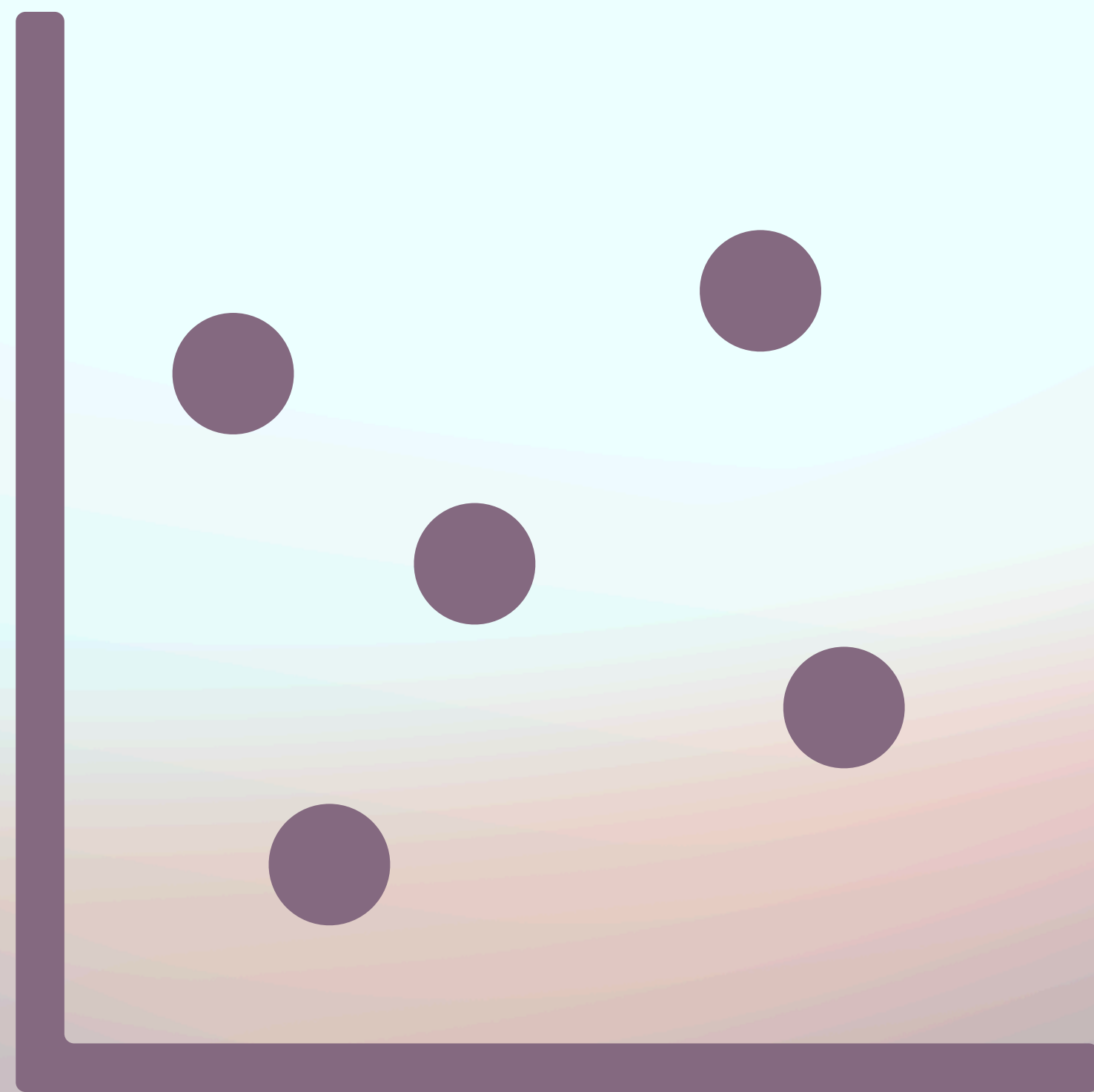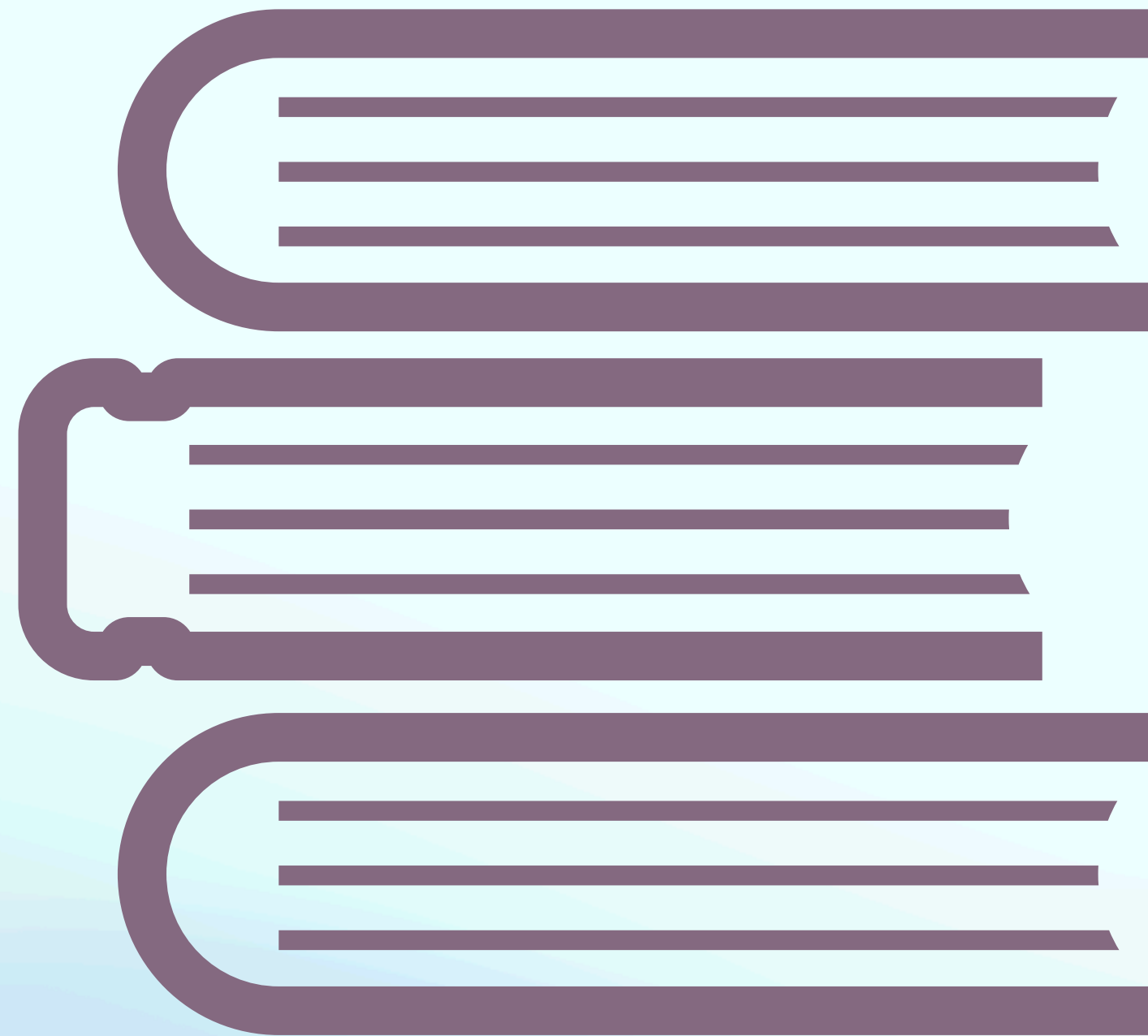
Outline

- Executive Summary
- Introduction
- Methodology
- Results
  - Visualization – Charts
  - Dashboard
- Discussion
  - Findings & Implications
- Conclusion
- Appendix

EXECUTIVE SUMMARY

- Contextualization & Analysis goal
- Methodology
  - Gather the Data
  - Analyze the Data
  - Visualizations of Data
- Support results by using graphs, trends, and charts
- Present an overall findings
- Conclusions

INTRODUCTION

- Stack Overflow annual Developer Survey is the most comprehensive survey of people who code.

- Results are not evenly represented of the whole community.

- Around 90,000 developers participated.

- Trends can predict the movement of developers.

- The Survey also presents a characterization of developers across the globe.
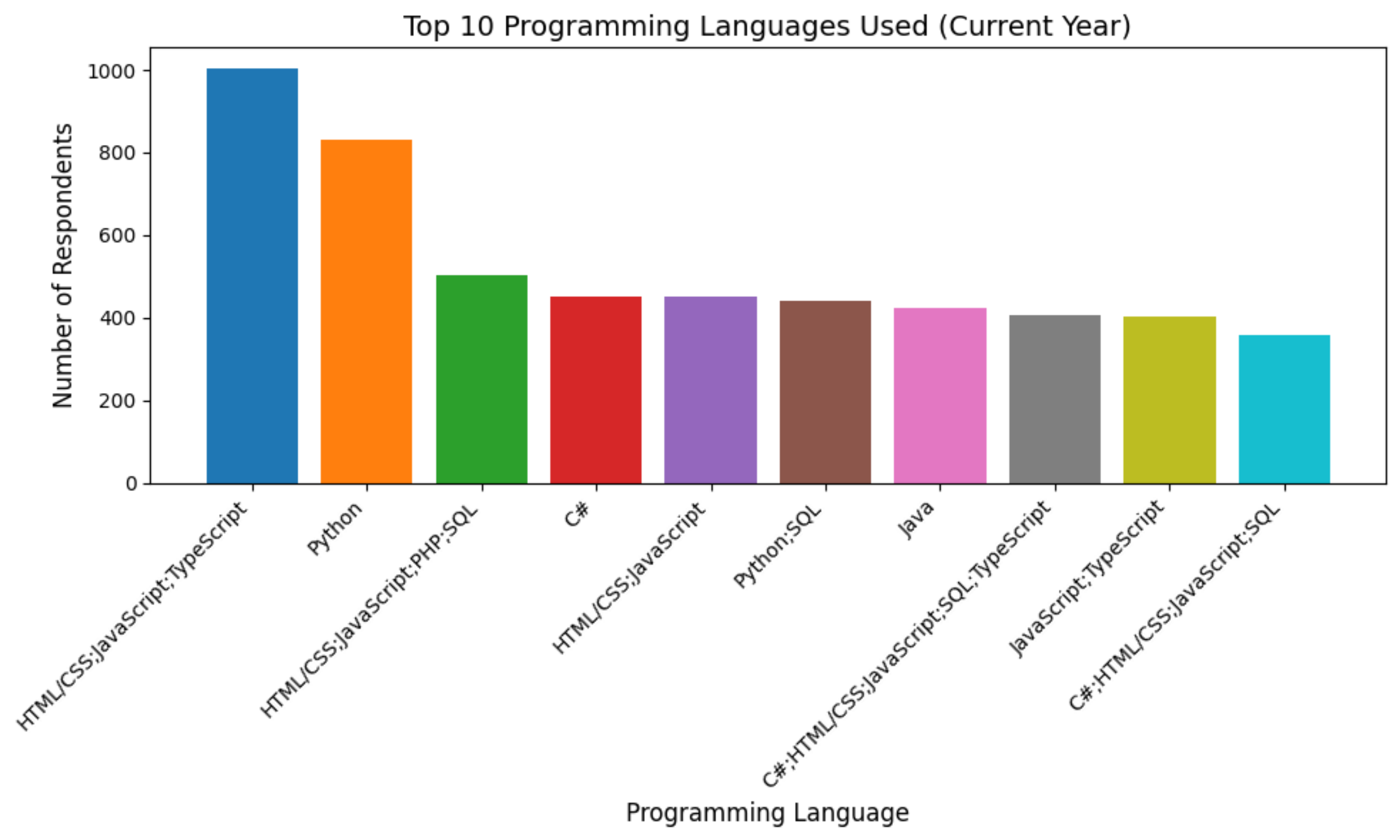
METHODOLOGY

- Collect & Explore Data

- WebScraping

- Data Wrangling

- Analyze distribution of data

- Review Outliers and Correlations

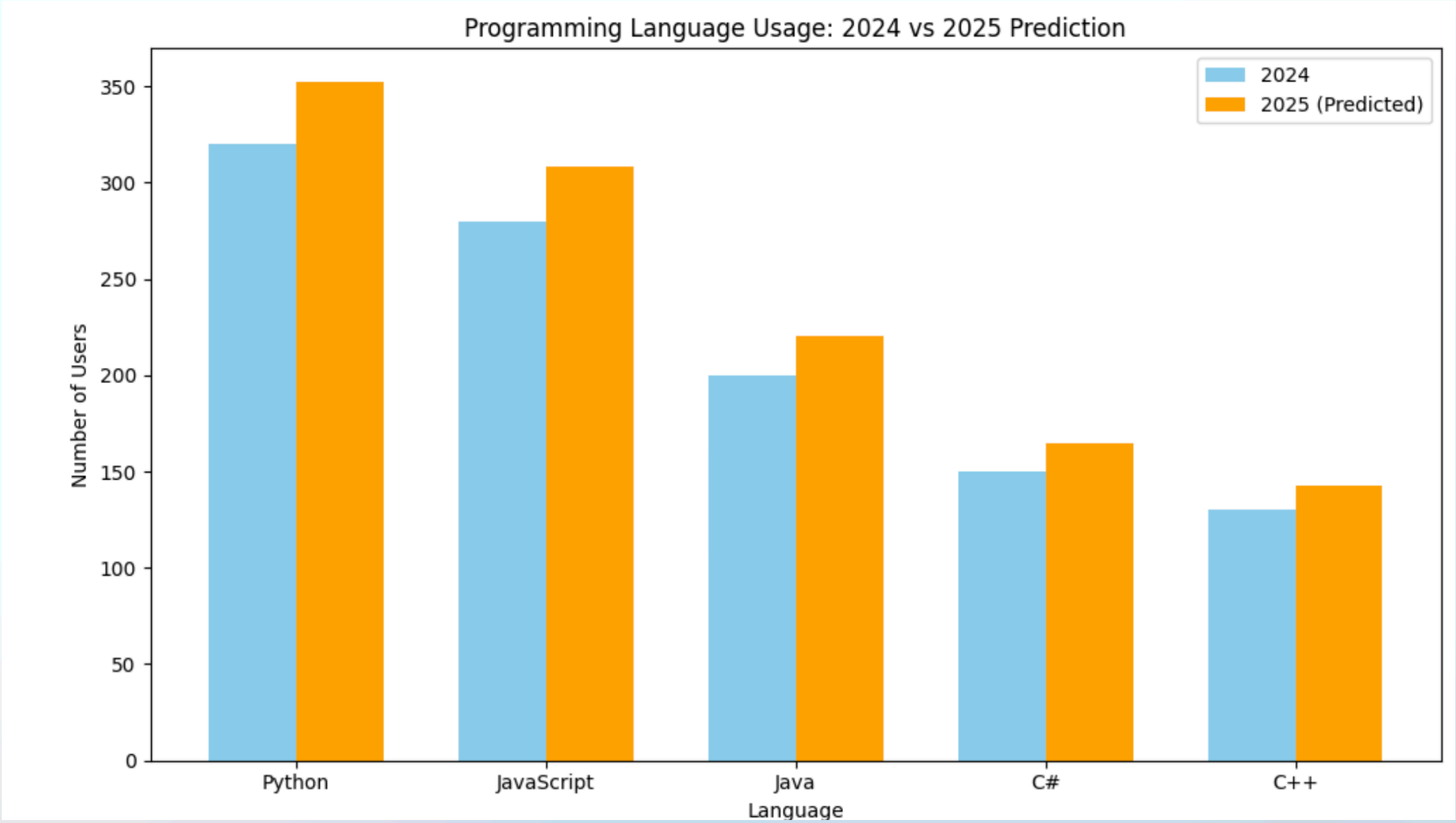- Data visualization

- Dashboards

PROGRAMMING LANGUAGE TRENDS

Current Year

Next Year

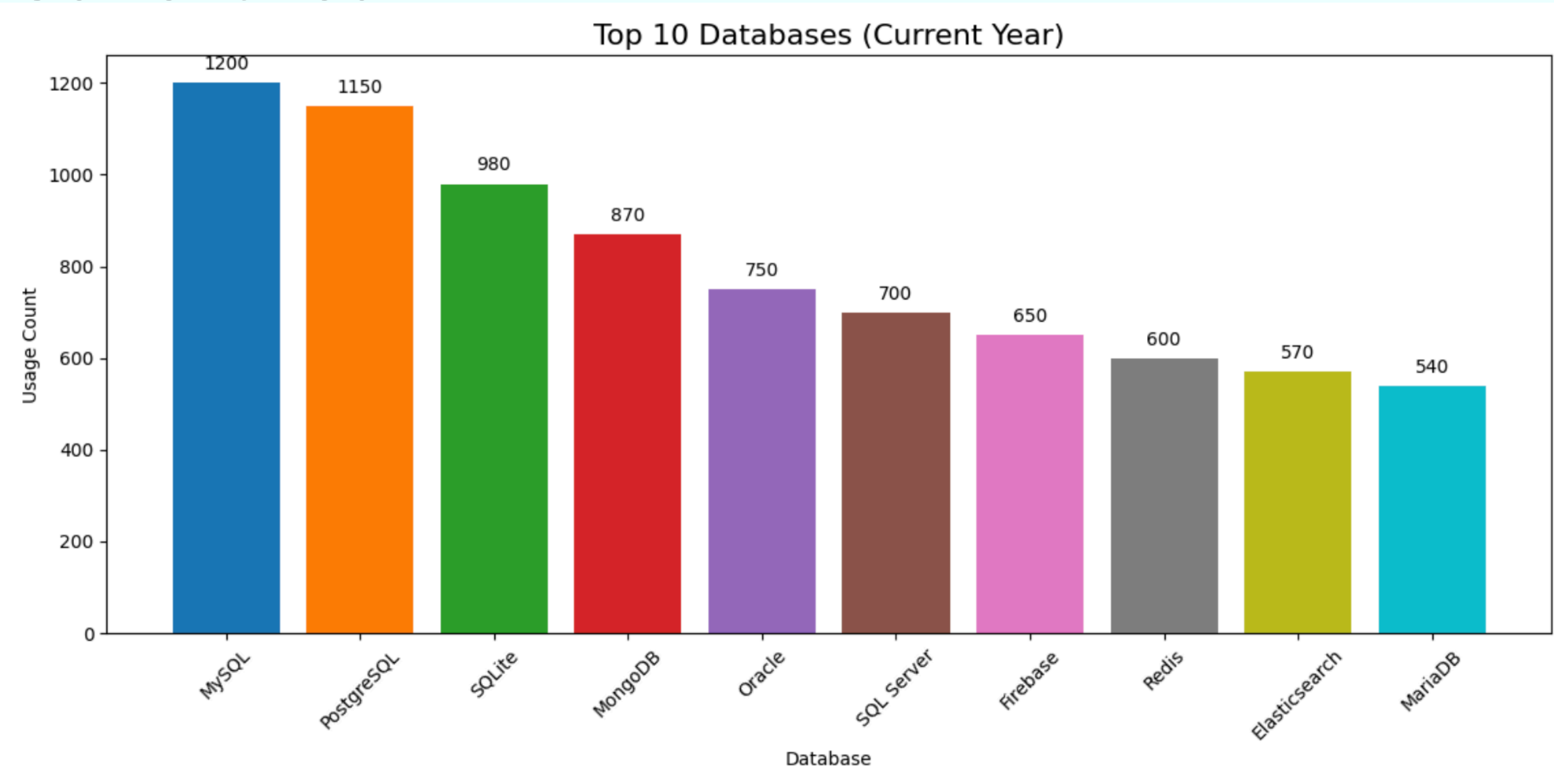# PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings:

- Python is the fastest growing language

- C+ is still holding popularity in usage

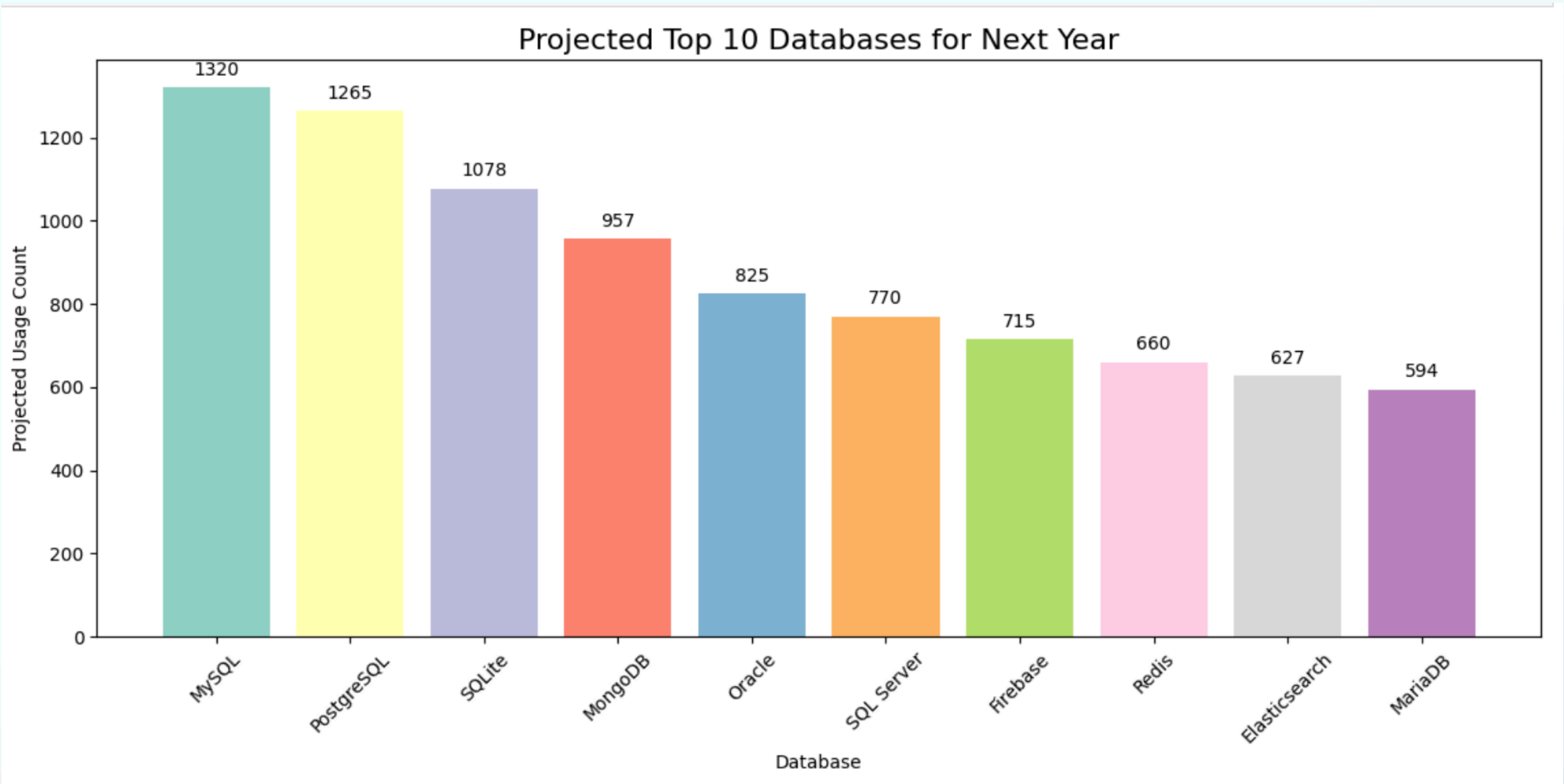- Versions of SQL is still quite popular

Implications:

- Python is moving towards the top language, to surpass JavaScript

- Although C+ it is not gaining or losing usage

- SQL will maintain popularity, but in differing forms.

DATABASE TRENDS

Current Year

Top 10 Databases (Current Year)

Usage Count by Database: MySQL 1200, PostgreSQL 1150, SQLite 980, MongoDB 870, Oracle 750, SQL Server 700, Firebase 650, Redis 600, Elasticsearch 570, MariaDB 540

Next Year

Projected Top 10 Databases for Next Year

Projected Usage Count by Database: MySQL 1320, PostgreSQL 1265, SQLite 1078, MongoDB 957, Oracle 825, SQL Server 770, Firebase 715, Redis 660, Elasticsearch 627, MariaDB 594
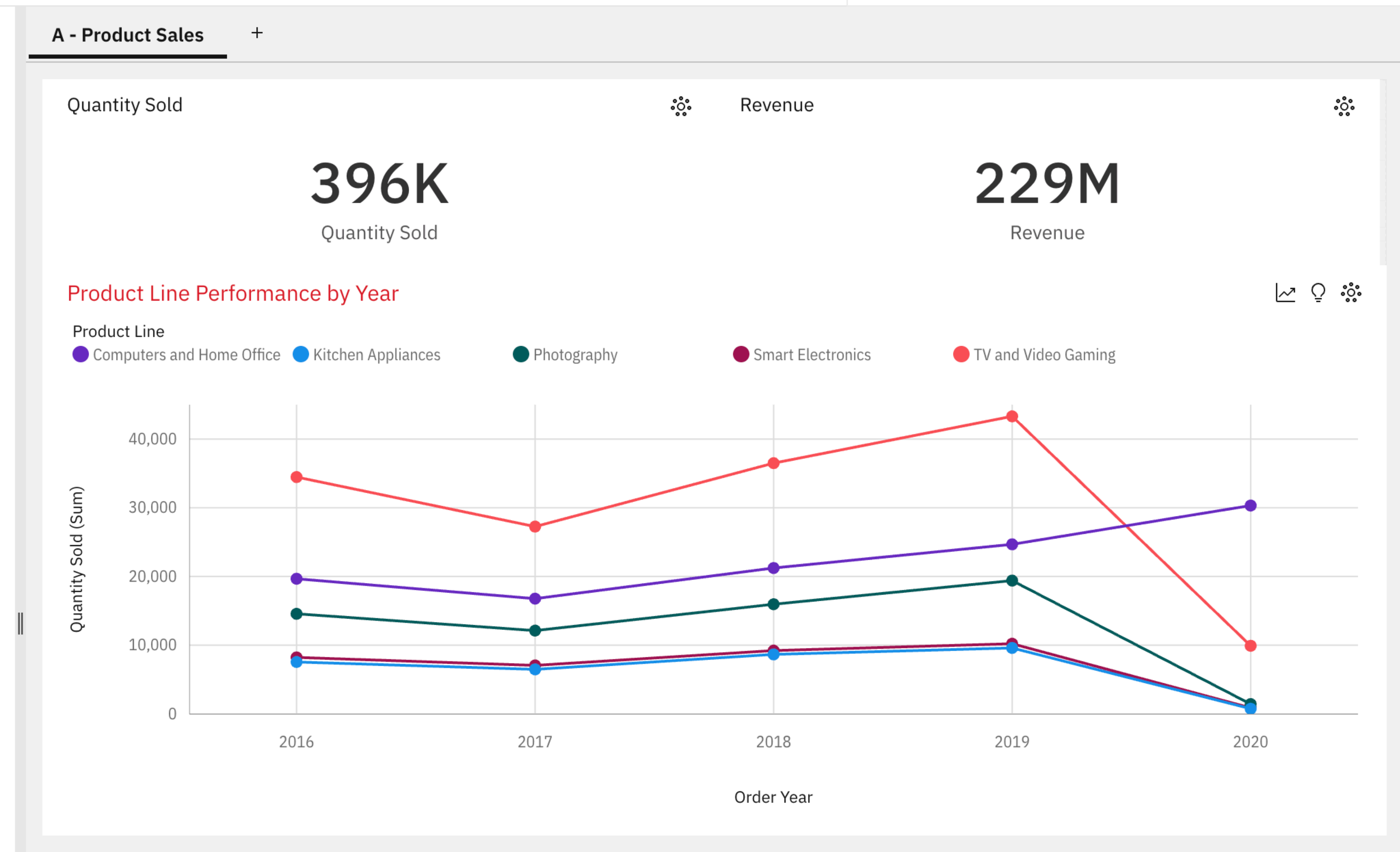
DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings:

- MySQL is still the most used database.

- Little interest in MicroSoft SQL Server & SQLite.

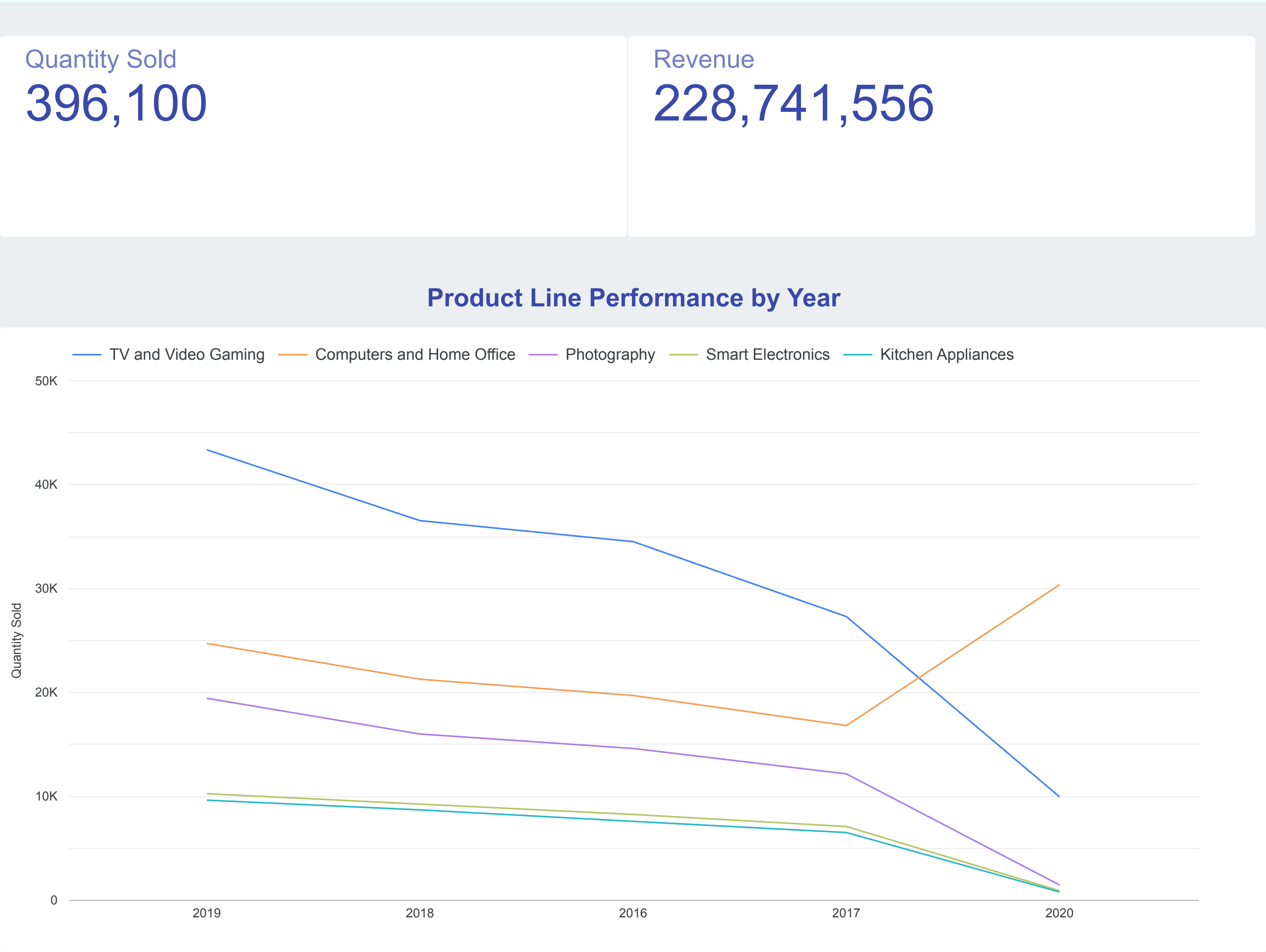- PostgreSQL & MongoDB are seeing an increase in interest.

Implications:

- PostgreSQL & MongoDB have the potential to jump above Microsoft SQL Server & SQLite

- We could be seeing a slow transition from SQL as the primary DB

DASHBOARD: IBM Congos

A - Product Sales   +

Quantity Sold

396K
Quantity Sold

Revenue

229M
Revenue

Product Line Performance by Year

Product Line
- Computers and Home Office
- Kitchen Appliances
- Photography
- Smart Electronics
- TV and Video Gaming

DASHBOARD: Google Looker Studio

Quantity Sold	Revenue
396,100	228,741,556

Product Line Performance by Year

DISCUSSION

- The findings were kind of expected, anyone looking to get into the field, have classes that focus on Python and SQL.

- There is still a lot of work to do in order to get more women in the field.

- Developing countries could benefit from increasing education opportunities in different Languages

OVERALL FINDINGS & IMPLICATIONS

Let's look at interesting Findings:

Findings:

- The majority of Woman & Men prefer Python.

- However, woman prefer SQL over JavaScript, and vice versa for men.

- SQL continues to have the highest number of job opportunities

Implications:

- There is still a lot of work to do to increase women in the field.

- While SQL has the most jobs, it is Woman that prefer the language over men.

- To be successful in this world, you will want to be highly skilled in Python and SQL
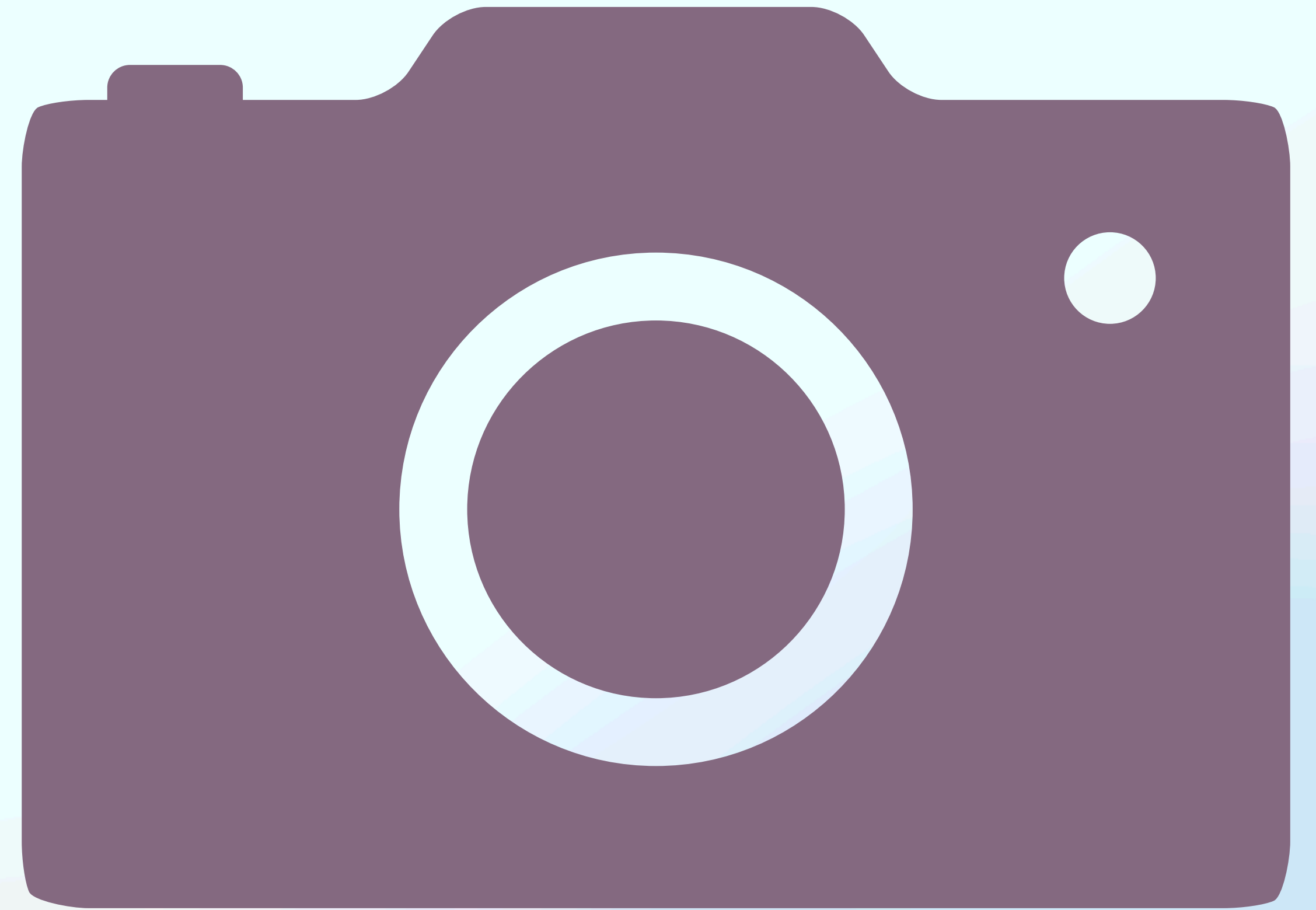
CONCLUSION

- Developers have their own preferences regarding the Languages they use.

- If the survey is done yearly, with different participants, trends of language usage can help predict where to grow skillset
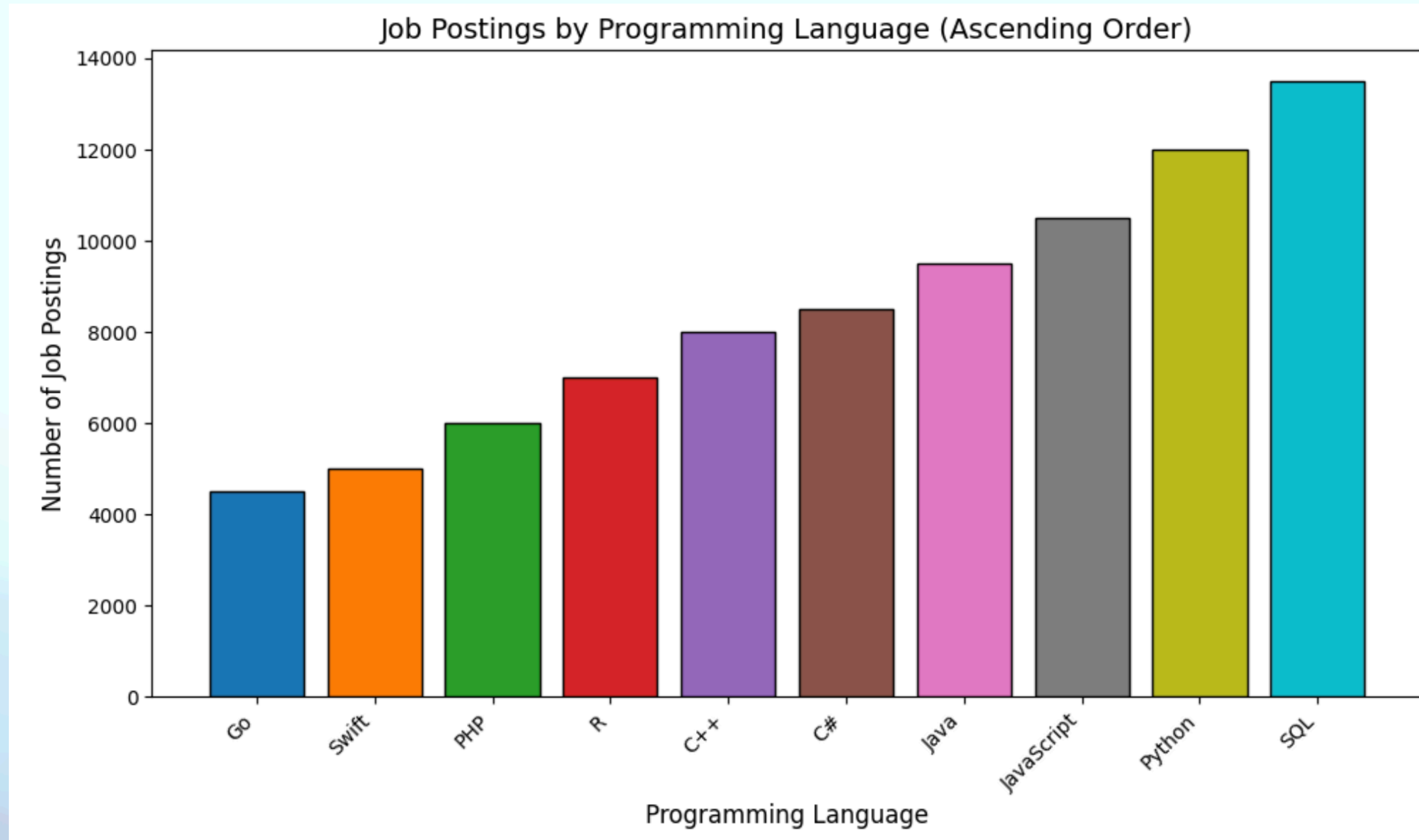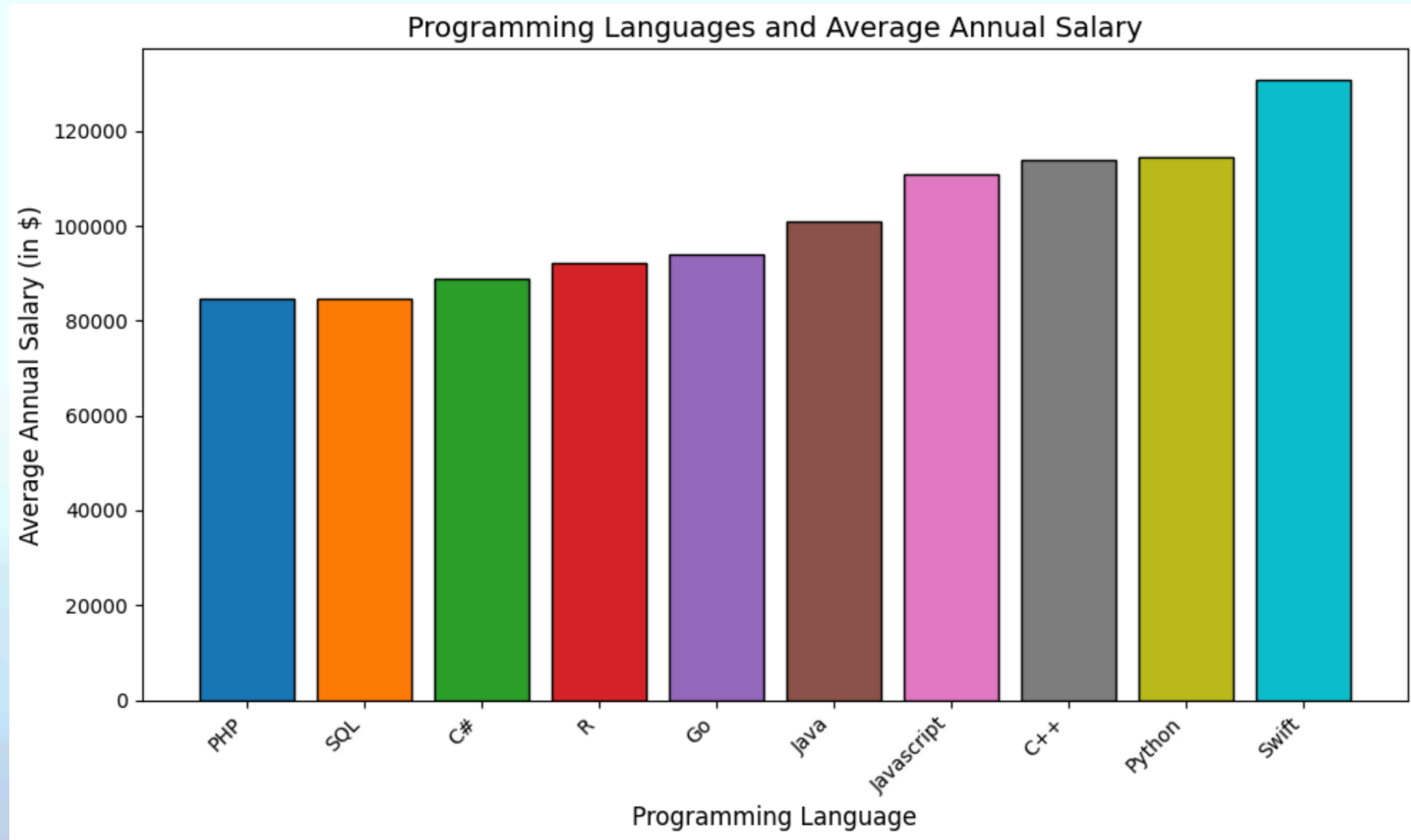
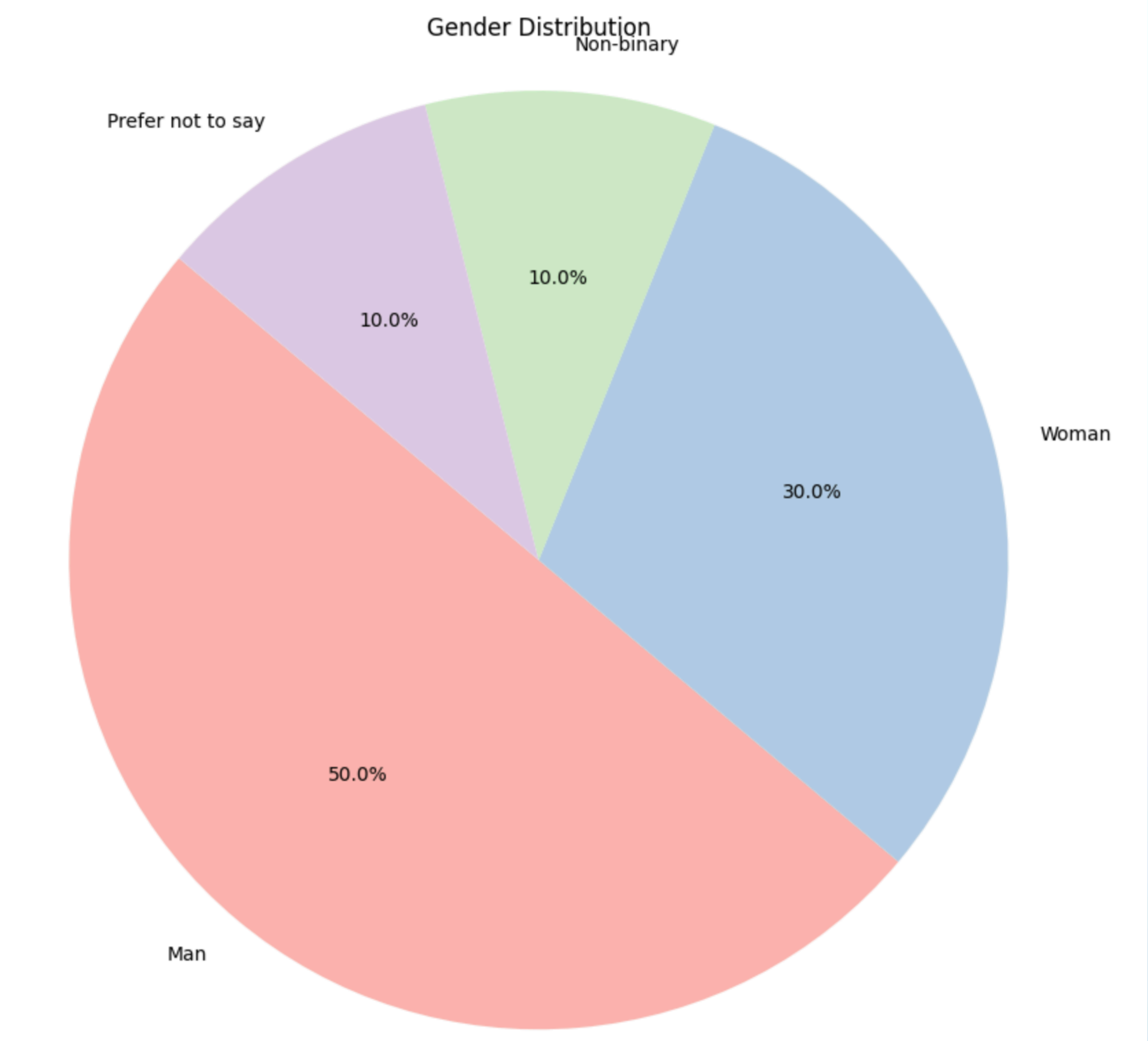# APPENDIX

- Checkout a couple of different graphs

JOB POSTINGS

POPULAR LANGUAGES

Programming Languages and Average Annual Salary

Gender Distribution

Comparing Preferred Language By Gender

Preferred Programming Languages Used by Women

Preferred Programming Languages Used by Men