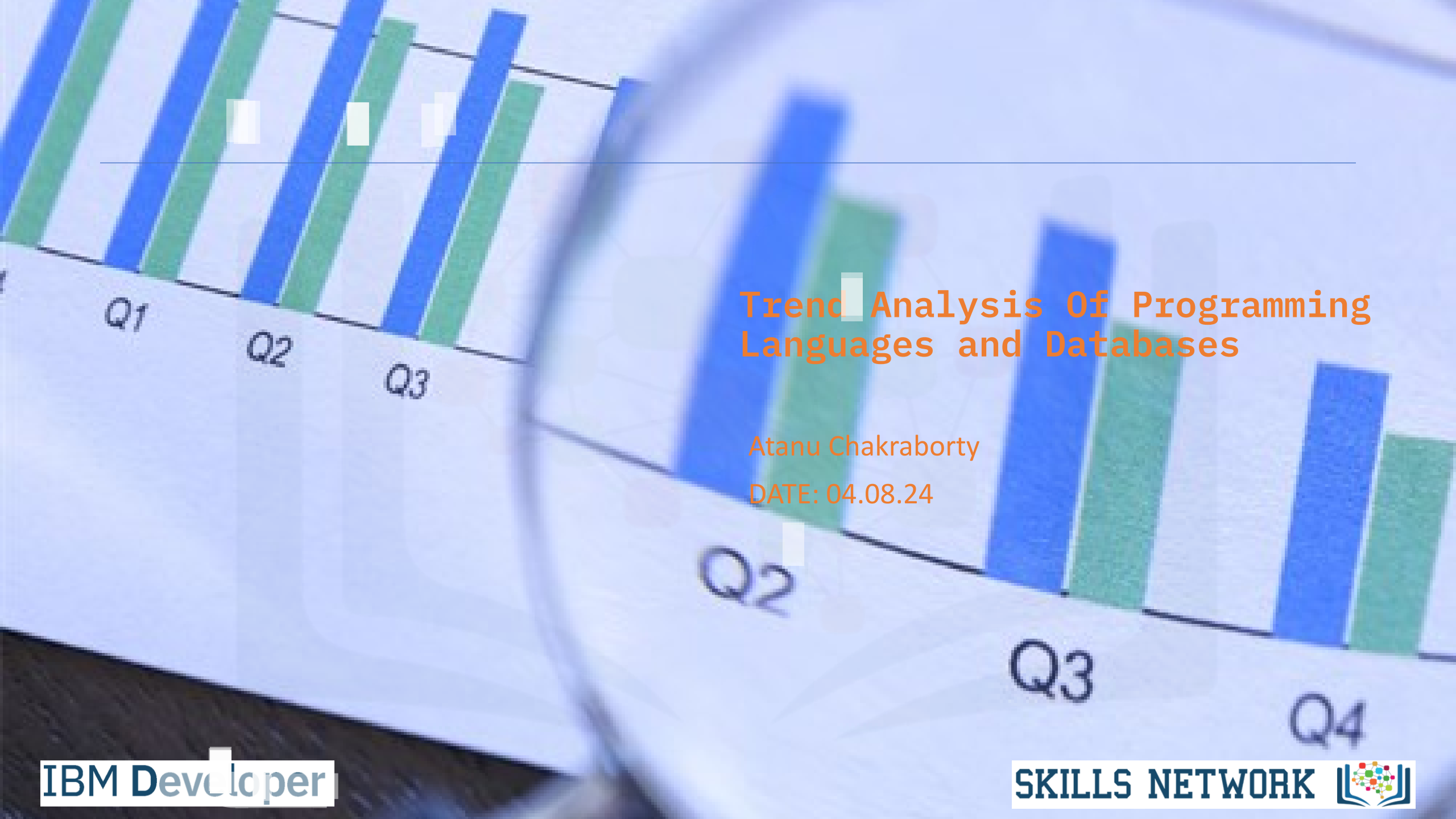


Trend Analysis Of Programming Languages and Databases

Atanu Chakraborty

DATE: 04.08.24

IBM Developer

SKILLS NETWORK

OUTLINE

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

EXECUTIVE SUMMARY

- Programming Language Trend Comparison: Current vs Future
  - Findings
  - Implications
- Database Trend Comparison: Current vs Future
  - Findings
  - Implications
- Dashboard
- Job Opportunities
- High-Paying Programming Languages
- Platform and Web Frame Work Trend Comparison: Current vs Future

INTRODUCTION

- Objective: Analyze evolving trends in programming languages and databases.
- Significance: Understand their impact on technology and career opportunities.
- Scope: Cover popular languages, emerging technologies, and industry shifts.
- Expected Outcomes: Identify key trends and forecast future developments.
  - New roles and skills in demand.
  - Insights for applying trends to project development and strategic planning.

METHODOLOGY

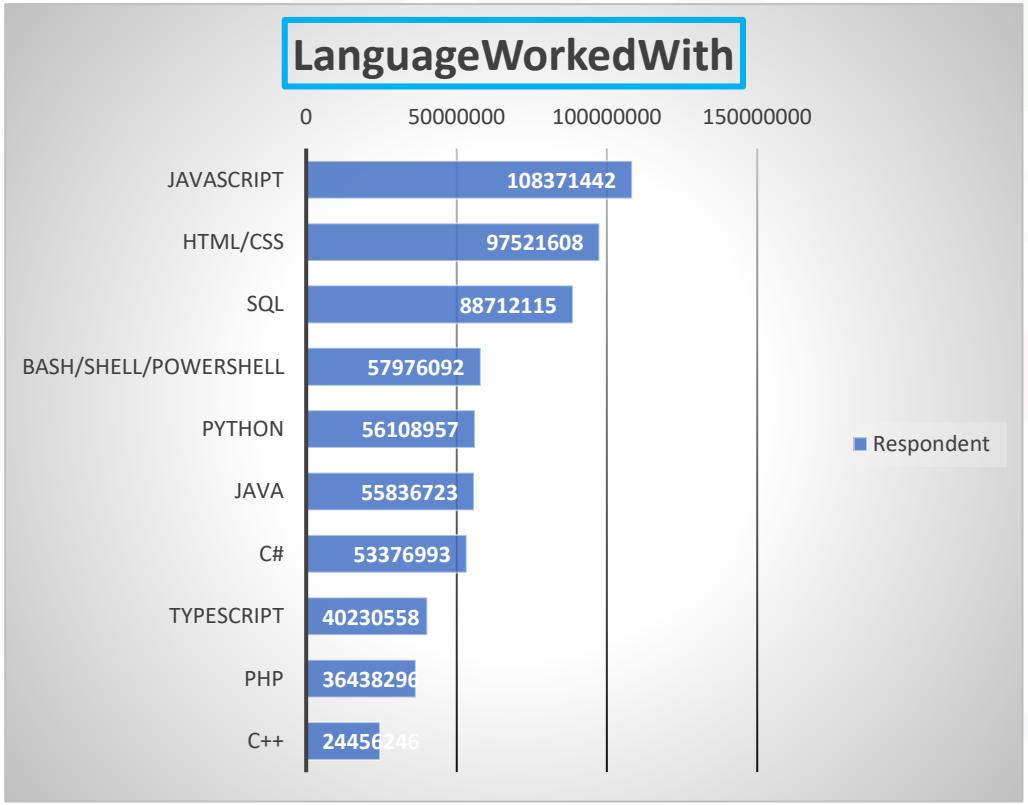
- Collect popular programming languages and databases data from GitHub Jobs API and various websites by using Python.
- Data Wrangling by using Python's Pandas library.
- Data Analysis by using Python's Pandas library.
- Data Visualization By using Python, Excel and IBM Cognos
  - Charts
  - Dashboard

RESULTS

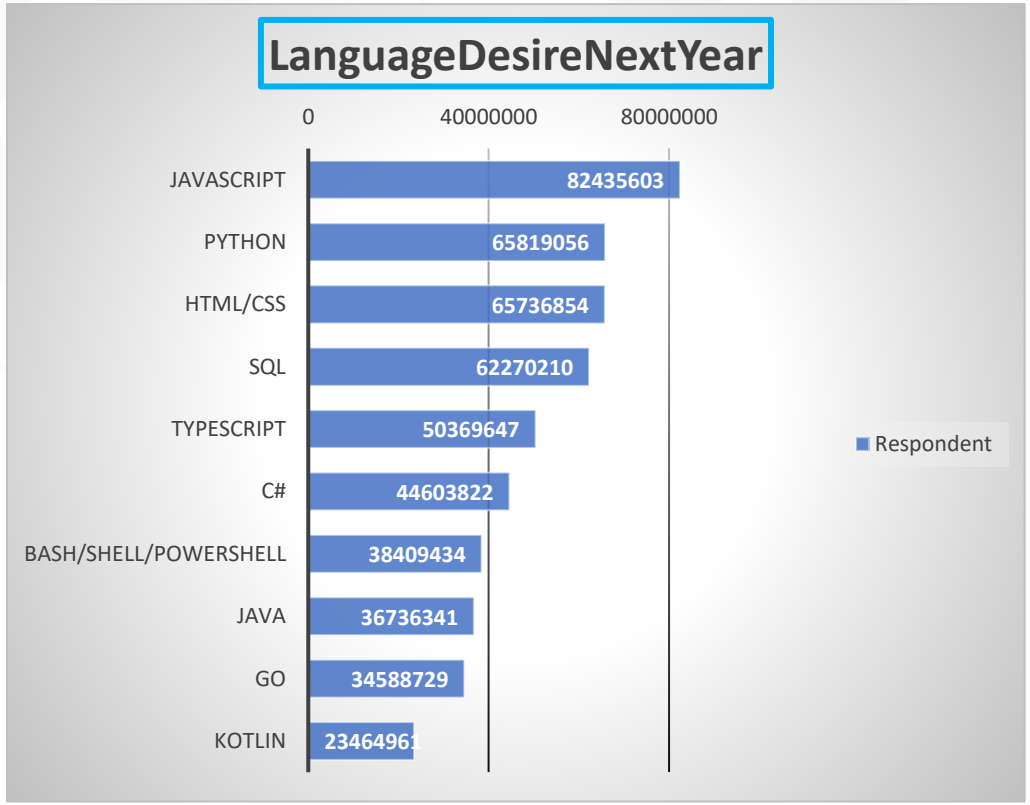
Results are explained in below slides➔

PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

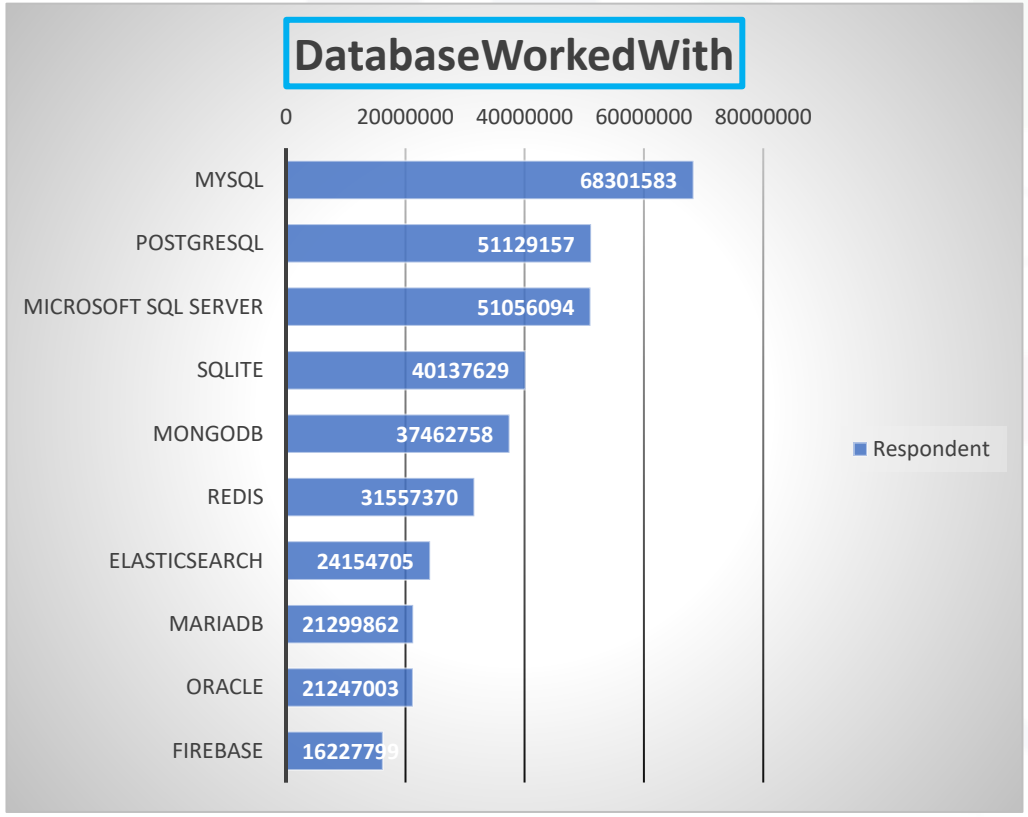
- JavaScript hold its position year by year.
- Python's popularity is increasing daily.
- PHP and C++ are becoming less popular over time.

Implications

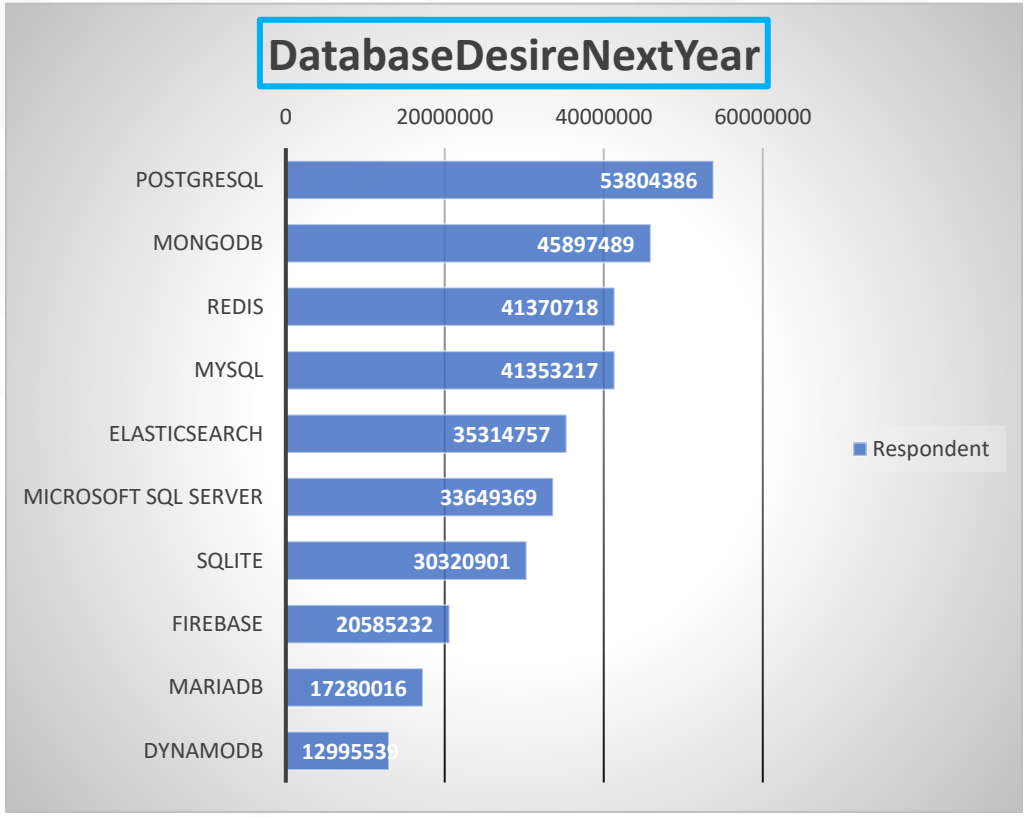
- Popular languages like Python and JavaScript offer more job opportunities.
- High-demand languages lead to better salaries.
- Learning emerging languages ensures ongoing industry relevance.

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- PostgreSQL’s popularity is increasing over time.
- MySQL’s popularity has slightly decreased.
- Oracle's popularity is gradually declining.

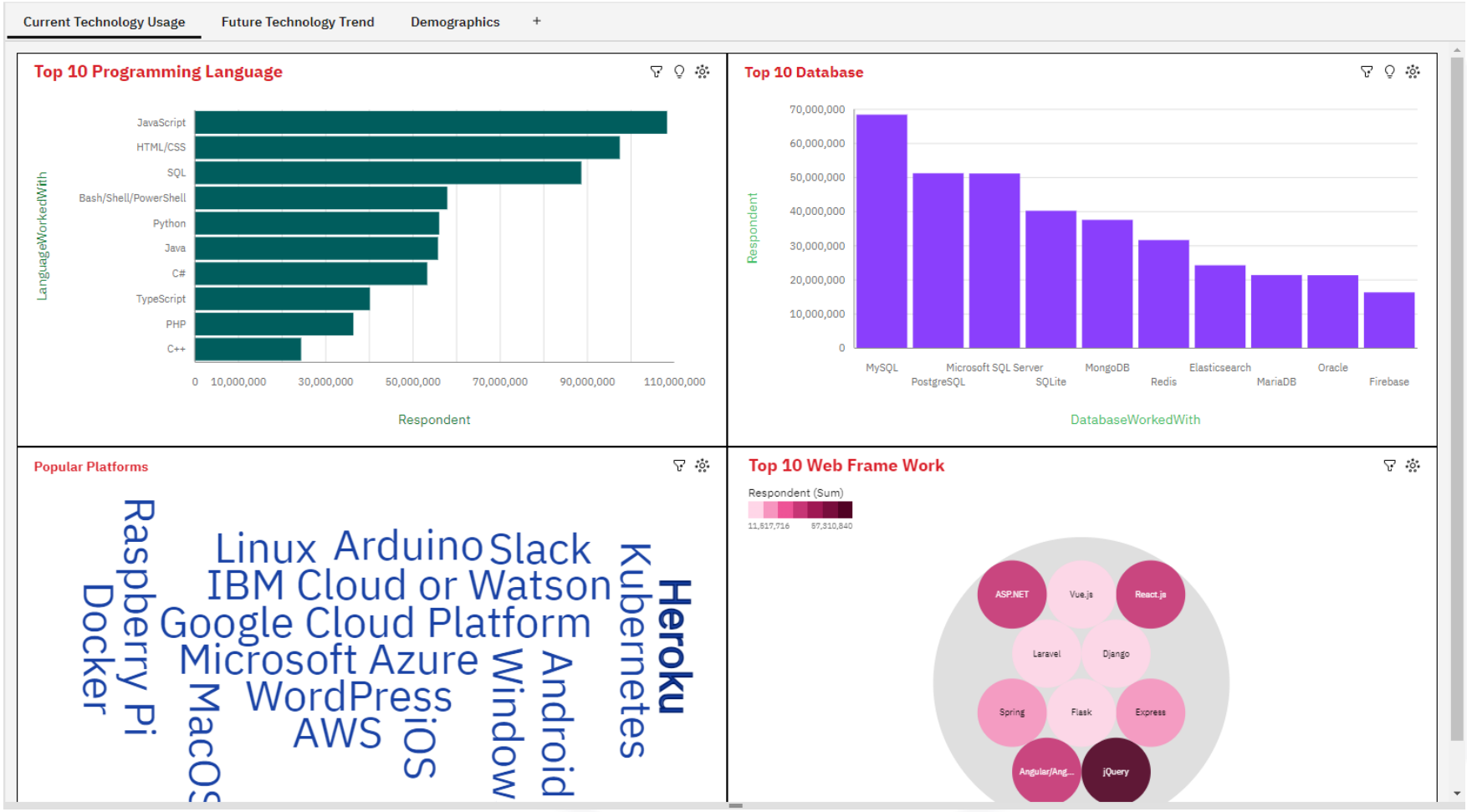
Implications

- Businesses may switch to cost-effective databases like PostgreSQL, reducing IT expenses.
- Increased demand for PostgreSQL skills (e.g., in startups) as MySQL and Oracle skills decline.
- Companies like Oracle must innovate to compete with rising alternatives such as PostgreSQL.

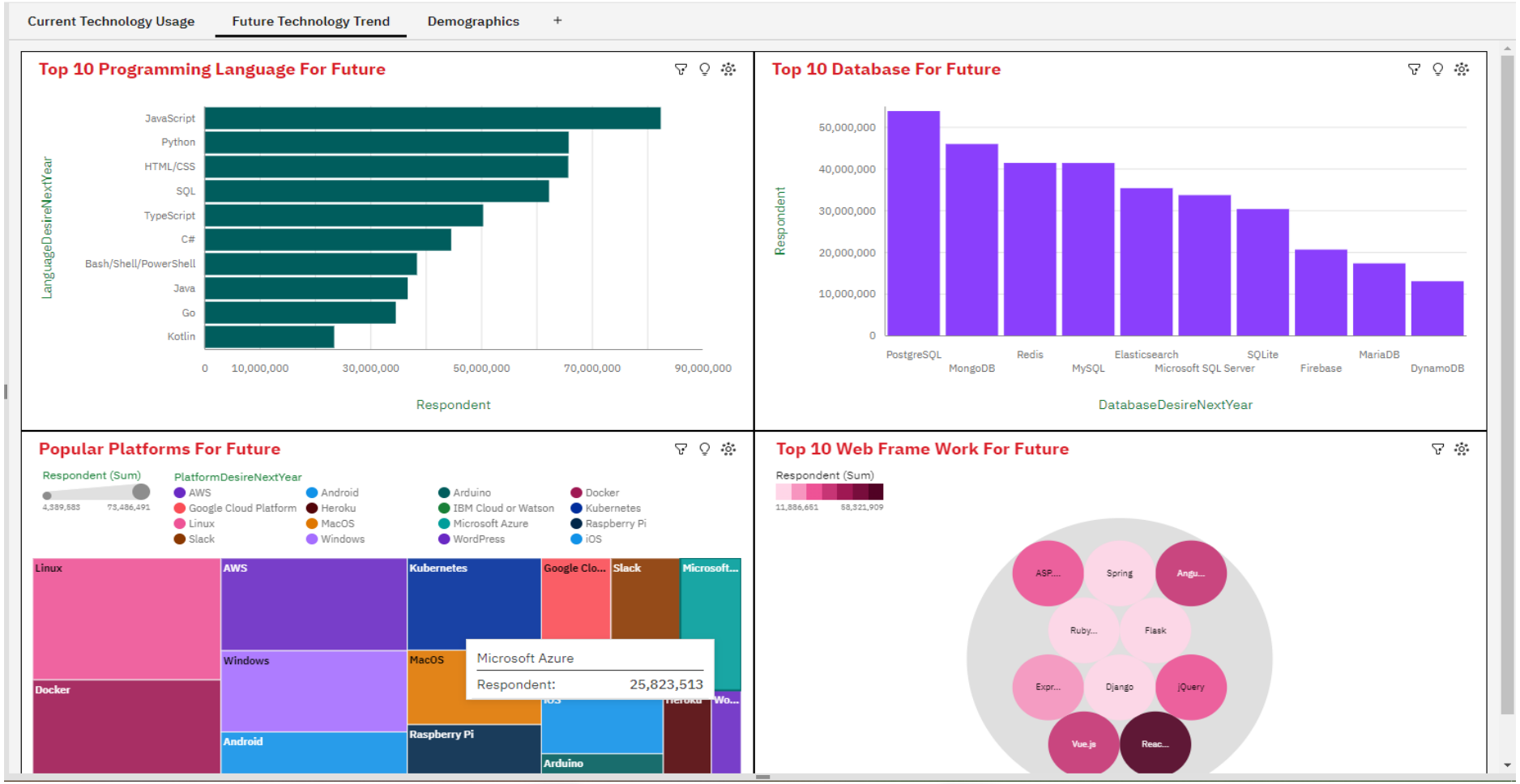
DASHBOARD

https://github.com/Atanu-98/Data-Analysis/blob/main/Project/Survey%20Dashboard.pdf

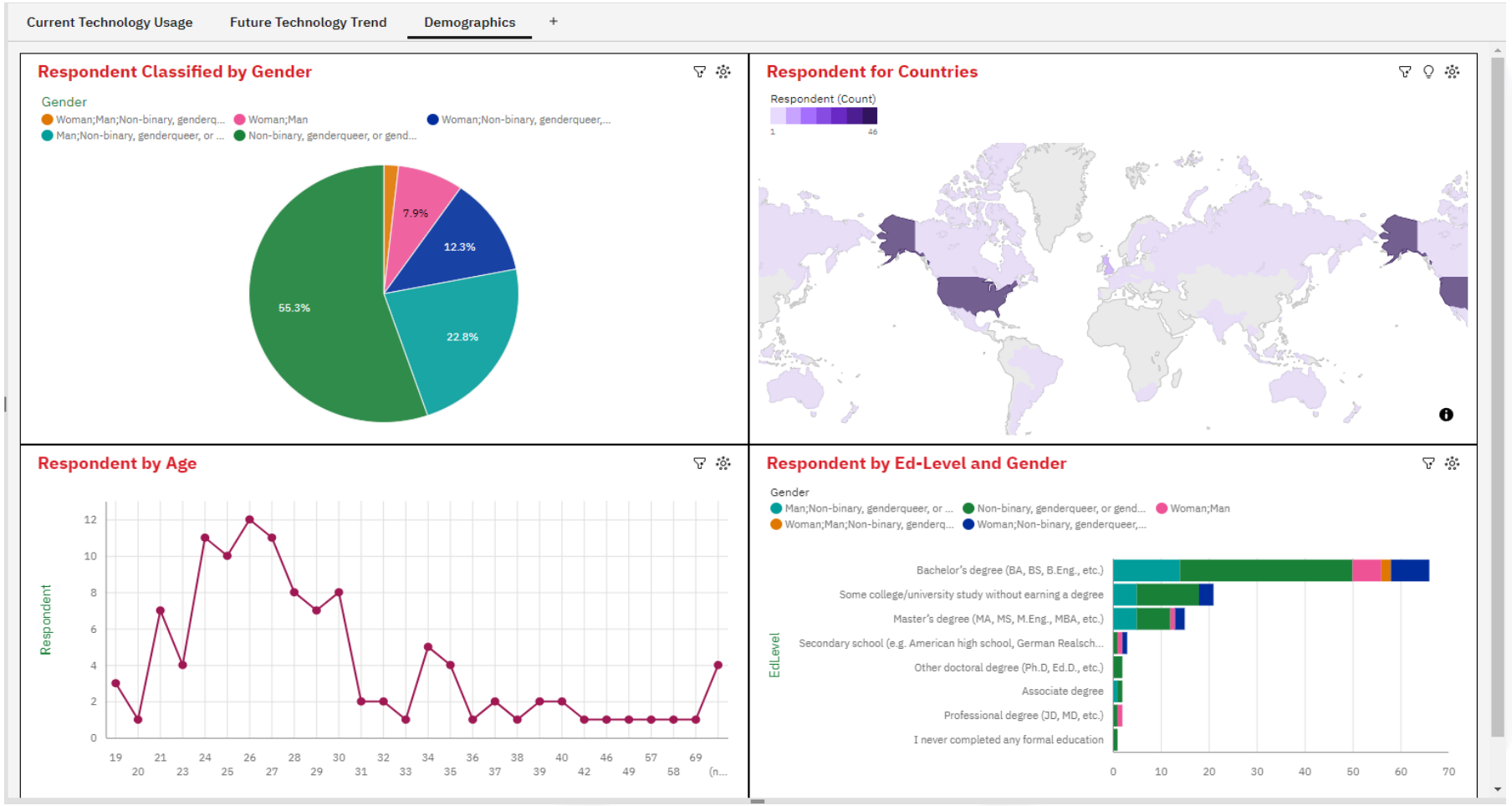
DASHBOARD TAB 1



DASHBOARD TAB 2



DASHBOARD TAB 3



DISCUSSION

Discussions explained in below Slide➔

OVERALL FINDINGS & IMPLICATIONS

Findings

- Python and JavaScript dominate the current market.
- Relational databases are current favourites. Multi-Model and Cloud-Native databases are becoming more popular.
- Companies are adopting newer programming languages and databases to meet modern demands.

Implications

- Transition to newer languages and databases for better performance.
- Use cloud-native databases to enhance scalability and reduce management.
- Integrate real-time data processing for better decision-making.

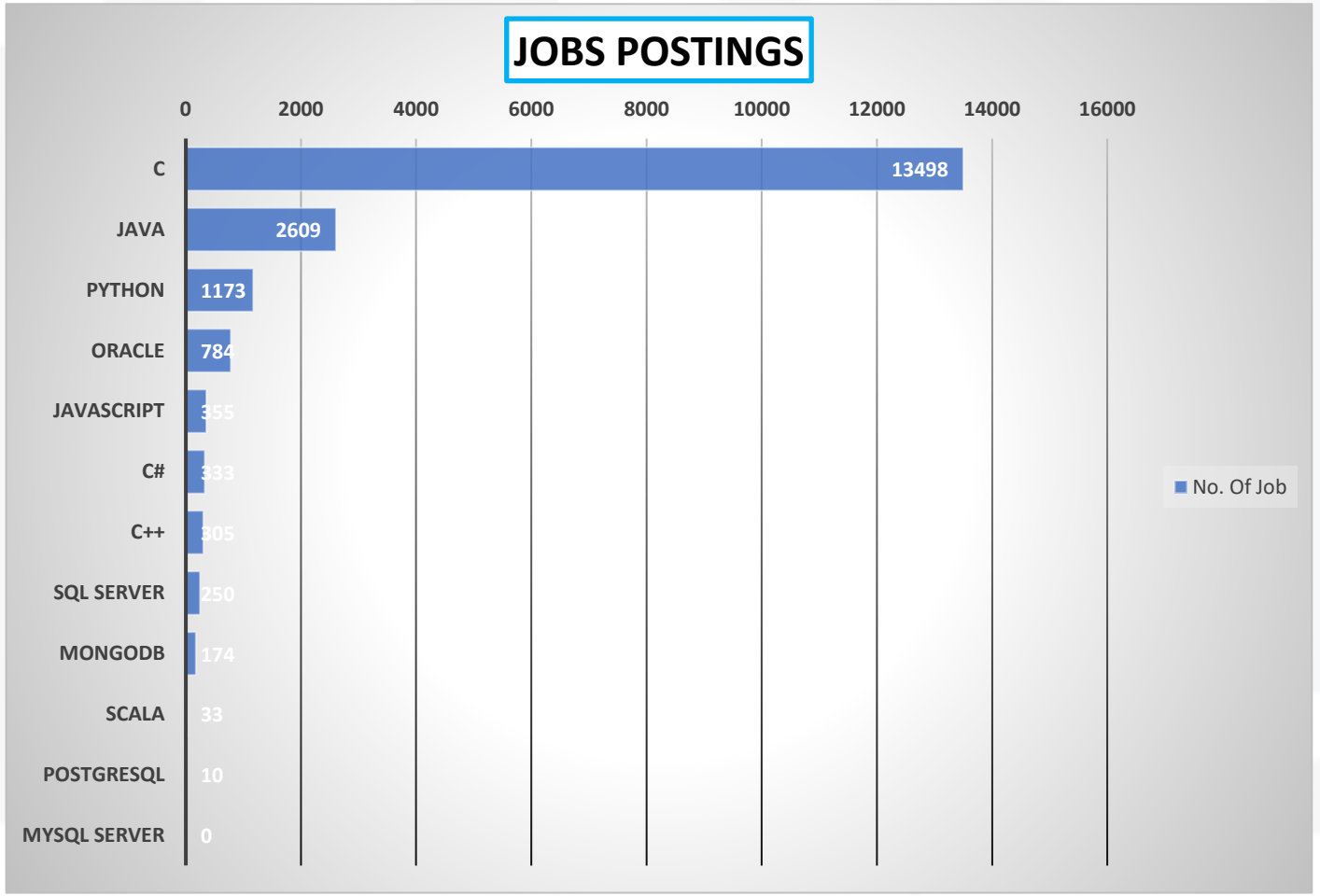
CONCLUSION

- Python and JavaScript are popular now, but Go is the future of programming.
- Multi-model and cloud-native databases are changing data management.
- Adopting these new technologies is essential to stay competitive.
- Using advanced data processing leads to smarter decisions and innovation.

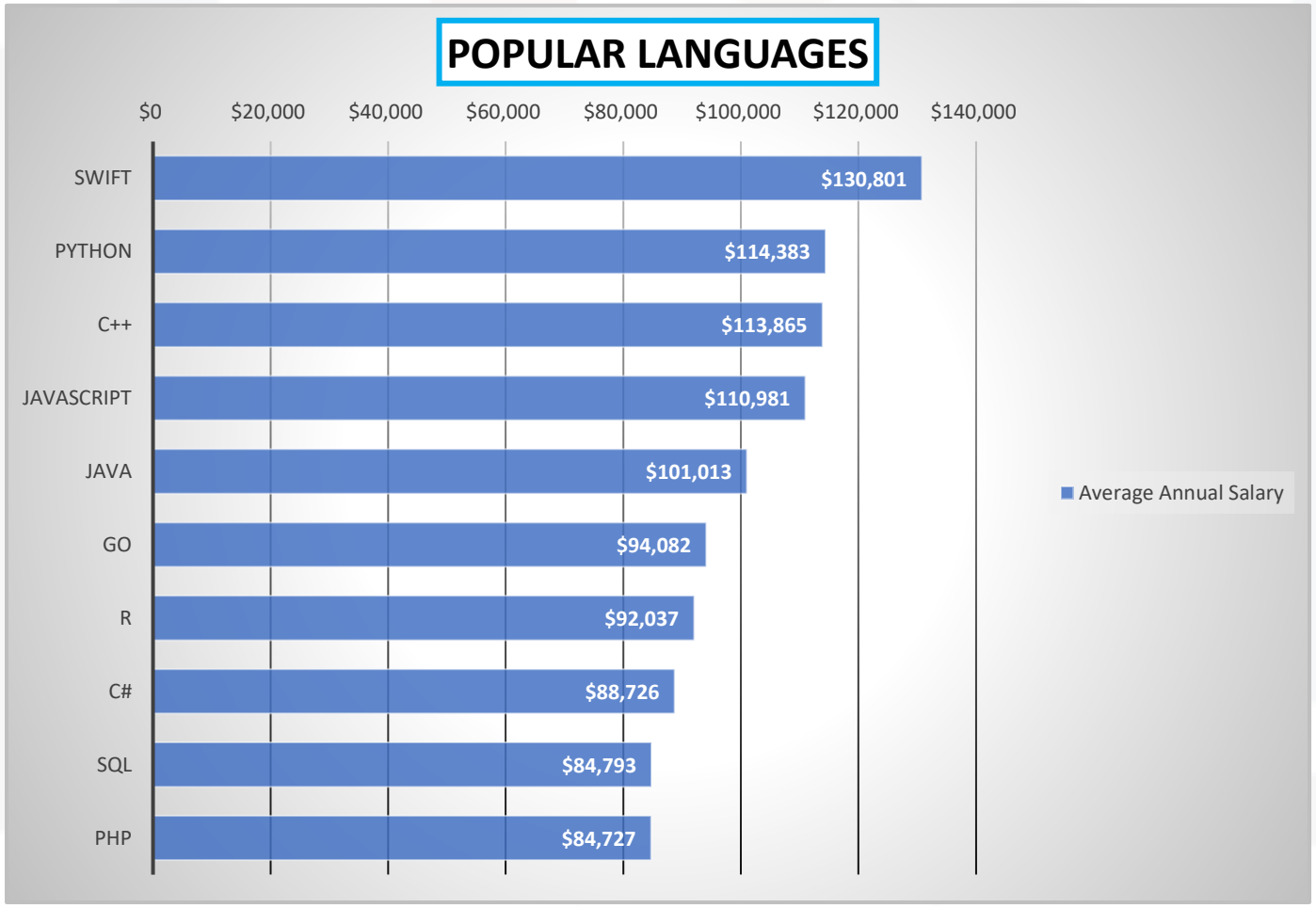
APPENDIX

- Four additional charts included in below Slides:
    1. Bar Chart Of Job Postings
    2. Bar Chart Of Popular Languages Salaries
    3. Line Chart Of Current and Future Platform Trends
    4. Line Chart Of Current and Future Web Frame Work trends

JOB POSTINGS



POPULAR LANGUAGES



Platform And Web Frame Work Trends