STACK OVERFLOW ANNUAL DEVELOPER SURVEY 2024

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OUTLINE

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

EXECUTIVE SUMMARY

- Top 5 Programming Languages that users have worked with and want to work with(in order): JavaScript, SQL, TypeScript, HTML/CSS, Python
- Top 5 Databases that users have worked with (in order): PostgreSQL, MySQL, SQLite, Microsoft SQL Server, MongoDB
- Top 5 Databases that users want to work with(in order): PostgreSQL, Redis, SQLite ,MySQL, MongoDB
- Top 5 Platforms that users have worked with and want to work with (in order): Amazon Web Services(AWS),Microsoft Azure, Google Cloud, CloudFare, Digital Ocean
- Top 5 Webframes that users have worked with (in order): Node.js, React, jQuery, Next.js, ASP.NET CORE
- Top 5 Webframes that users want to work with (in order): React, Node.js, Next.js, ASP.NET CORE, Vue.js

INTRODUCTION

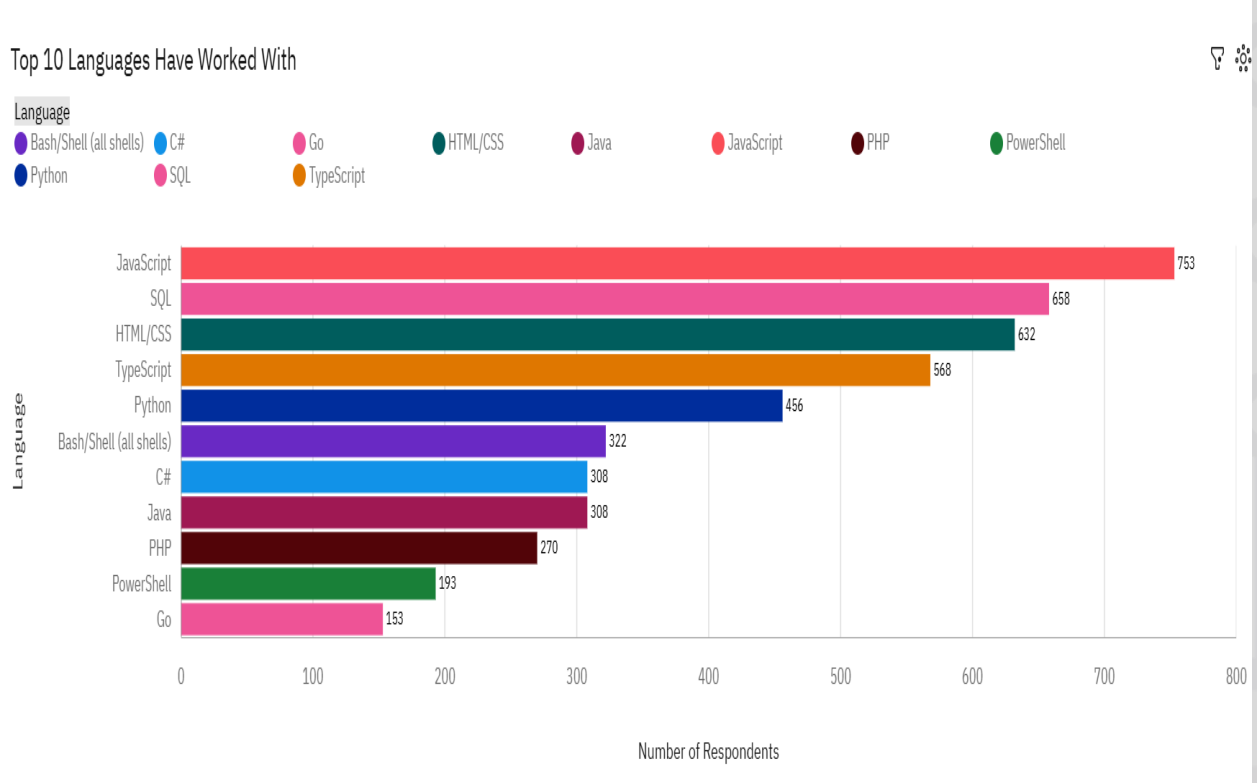
- The Stack Overflow Developer Survey 2024 is an annual global survey capturing trends in the developer community.
- Carried out and completed over May and June 2024
- Over 65,000 developers responded
- Topics included coding, working, AI and how they feel about all of those topics, demographics, education, and technology preferences and more.
- Helps companies, educators, and researchers understand developer needs and industry trends.
- IBM Cognos Analytics was used for Data Visualization in this project.

METHODOLOGY

- 65,437 responses from 185 countries.
- Survey ran: May 19 - June 20, 2024.
- Median time spent on the survey ~ almost 21 minutes.
- Data collected and explored via Web Scraping, API and requests Library.
- Data wrangled to remove inconsistencies.
- Exploratory Data Analysis carried out to find outliers and patterns.
- Data visualization carried out to highlight distribution of data, relationships, composition and comparison of data.
- Dashboards created to show key findings.

PROGRAMMING LANGUAGE TRENDS

Current Year



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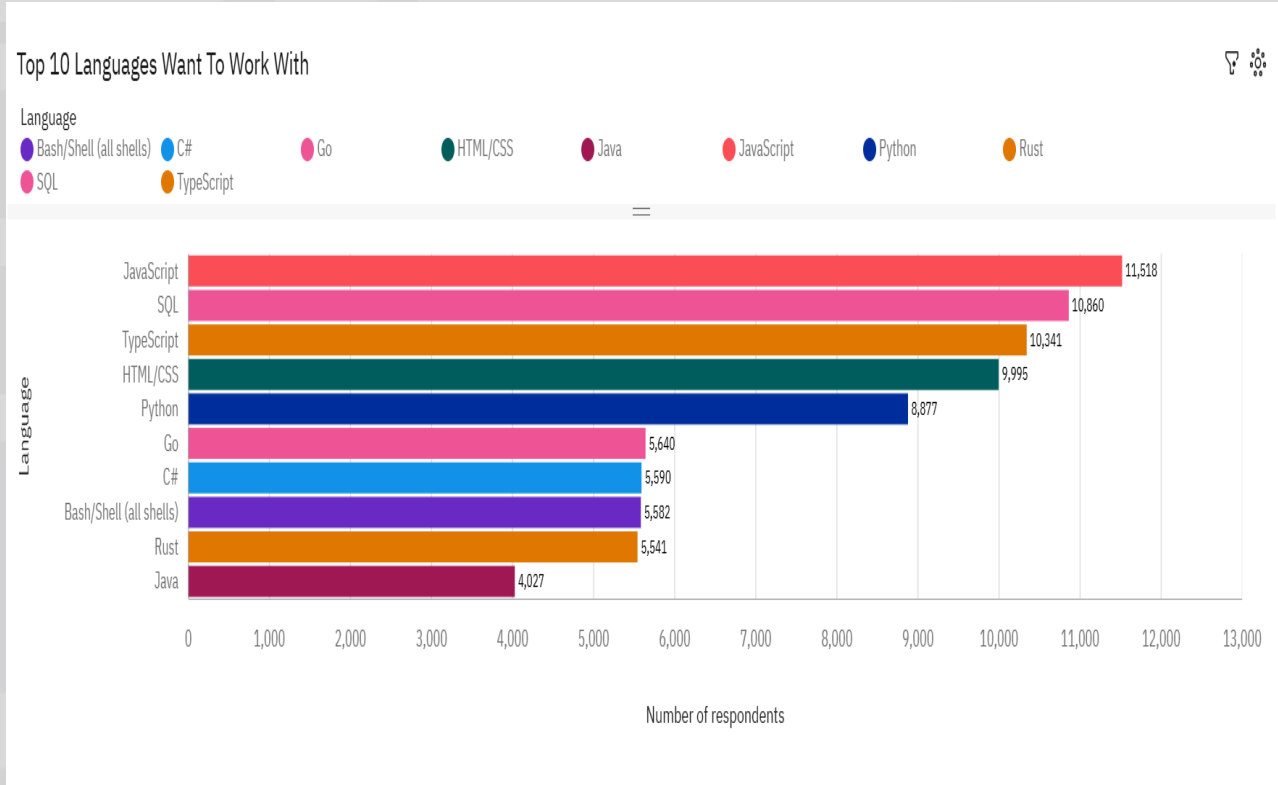


PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

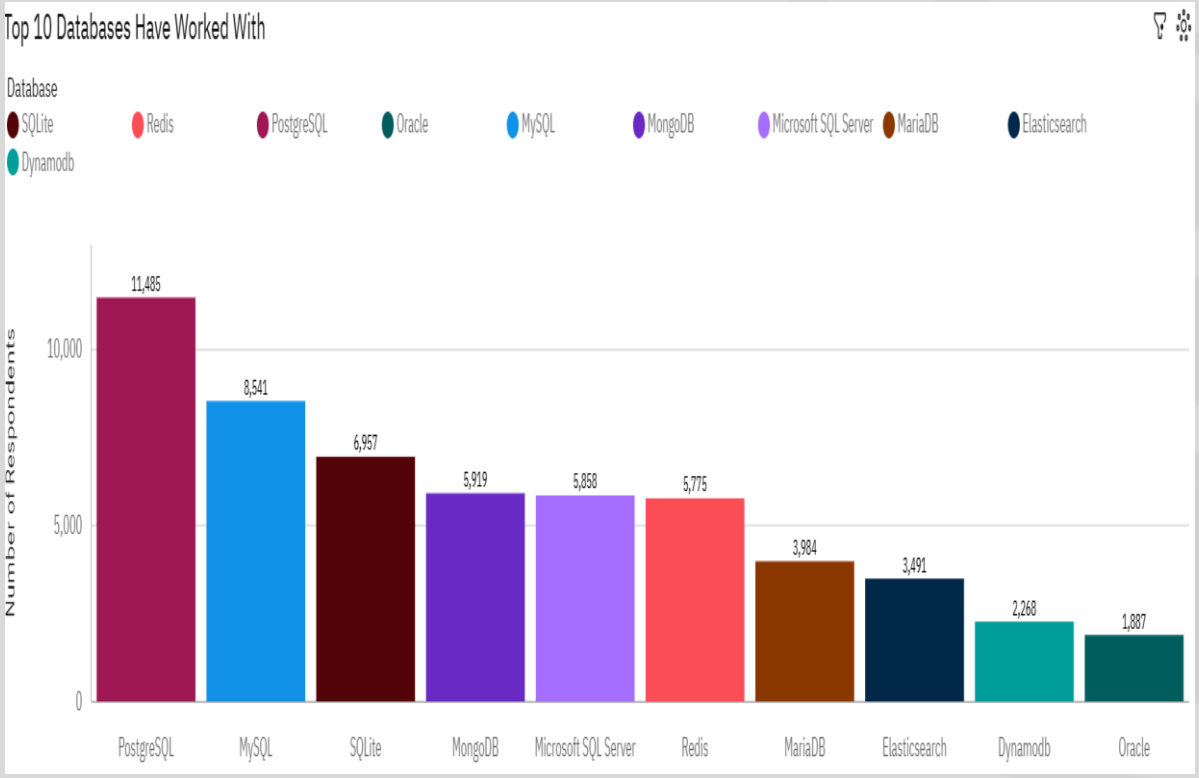
- JavaScript continues to be the most preferred programming language among developers.
- Surprisingly, many preferred HTML/CSS over TypeScript.
- Significant rise in interest to work with Go.
- PHP has fallen out of favor among programmers, dropping out of the top 10.

Implications

- JavaScript and SQL continue to dominate as essential languages, reflecting the growing focus on development and data querying.
- Java has become a very unpopular language.
- Go is rising in popularity which might be due to its simplicity, speed, and built-in support for scalable, concurrent systems.
- The consistent favor of HTML/CSS shows that, despite its simplicity, it remains a core favorite among developers.

DATABASE TRENDS

Current Year



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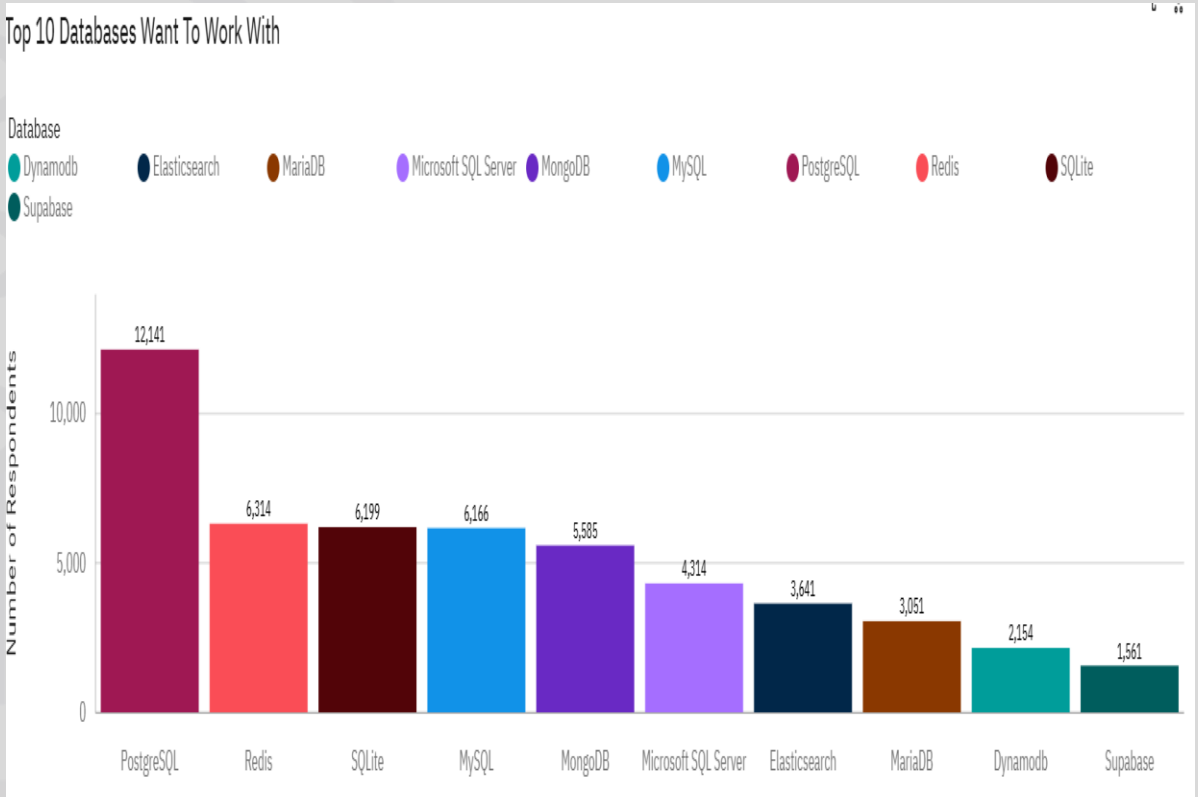


DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- PostgreSQL is the most widely used database today.
- Redis has overtaken MySQL in demand and usage.
- SQLite maintains steady popularity.
- Oracle’s popularity is declining.

Implications

- PostgreSQL remains strong in the market.
- Redis is preferred possibly for its speed and real-time capabilities.
- SQLite continues to serve consistent use cases.
- Despite NoSQL’s flexibility, SQL is trusted for reliability, integrity, and power, as reflected in the data..

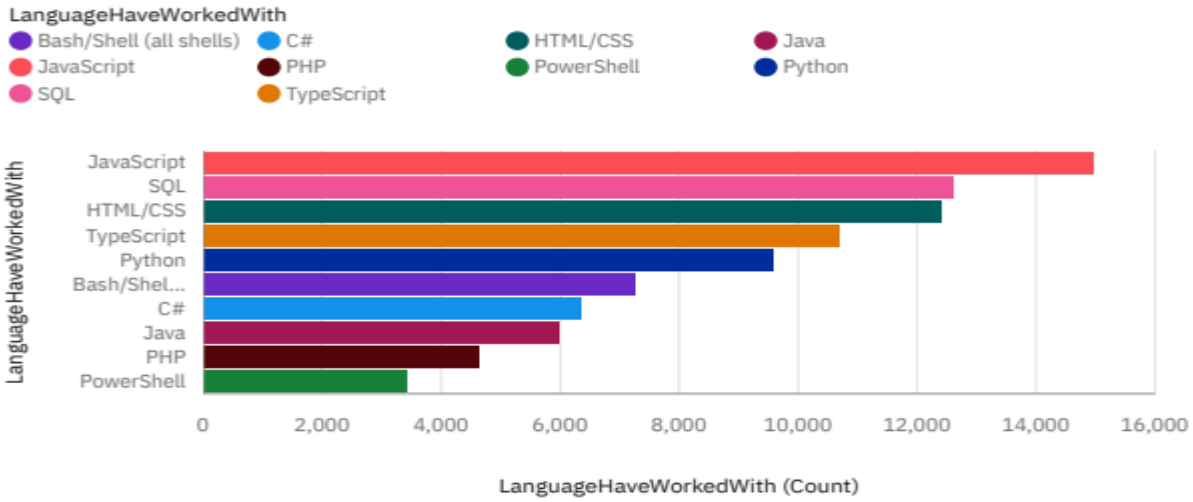
DASHBOARD

The dashboard link is given below:

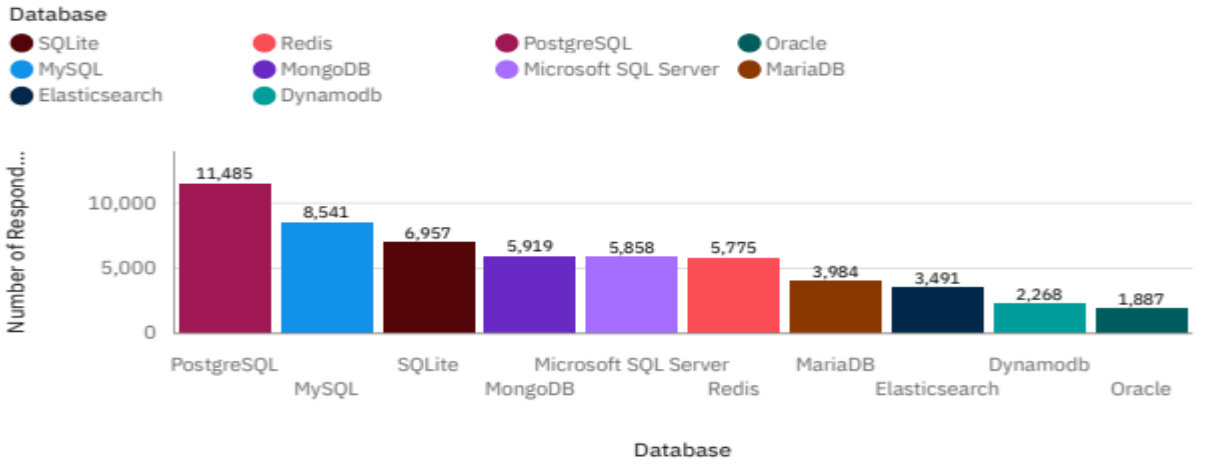
https://us3.ca.analytics.ibm.com/bi/?perspective=dashboard&pathRef=.my_folders%2Fsheet1&action=view&mode=dashboard&subView=model00000197e90489b4_00000000

CURRENTLY TECHNOLOGY TRENDS

Top 10 Languages Have Worked With

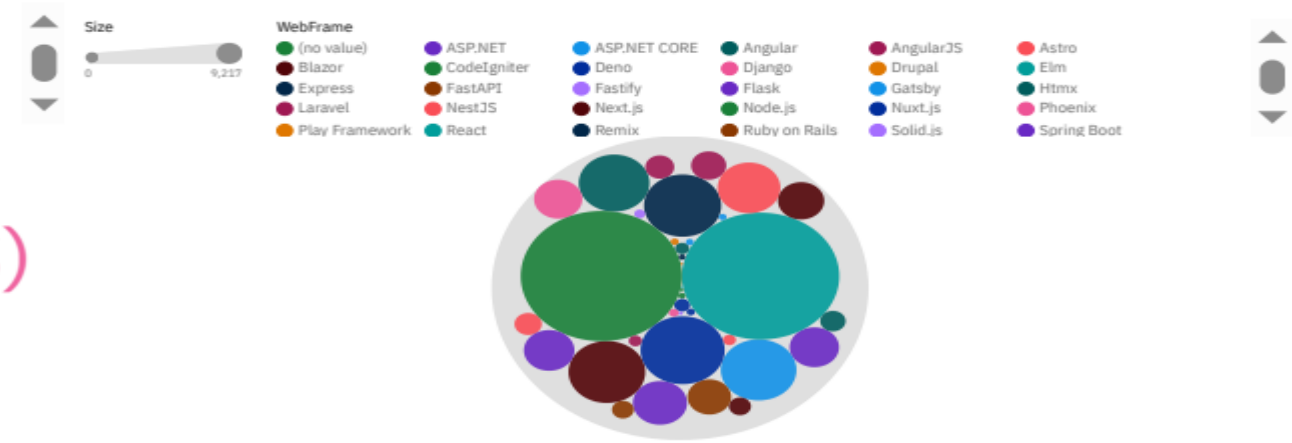


Top 10 Databases Have Worked With



Top 10 Platforms Have Worked With

Top 10 WebFrames Have Worked With



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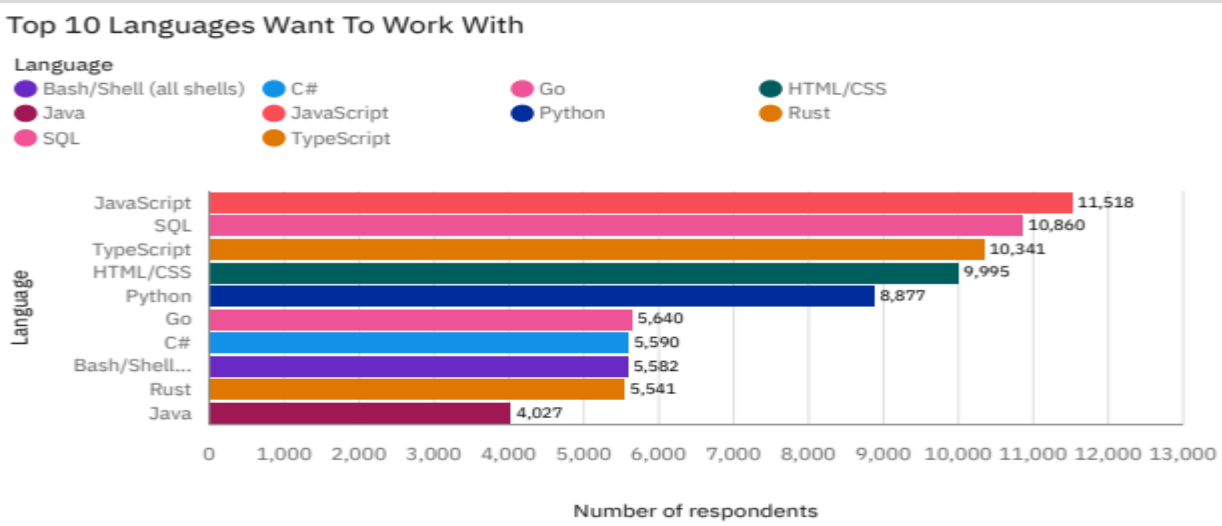
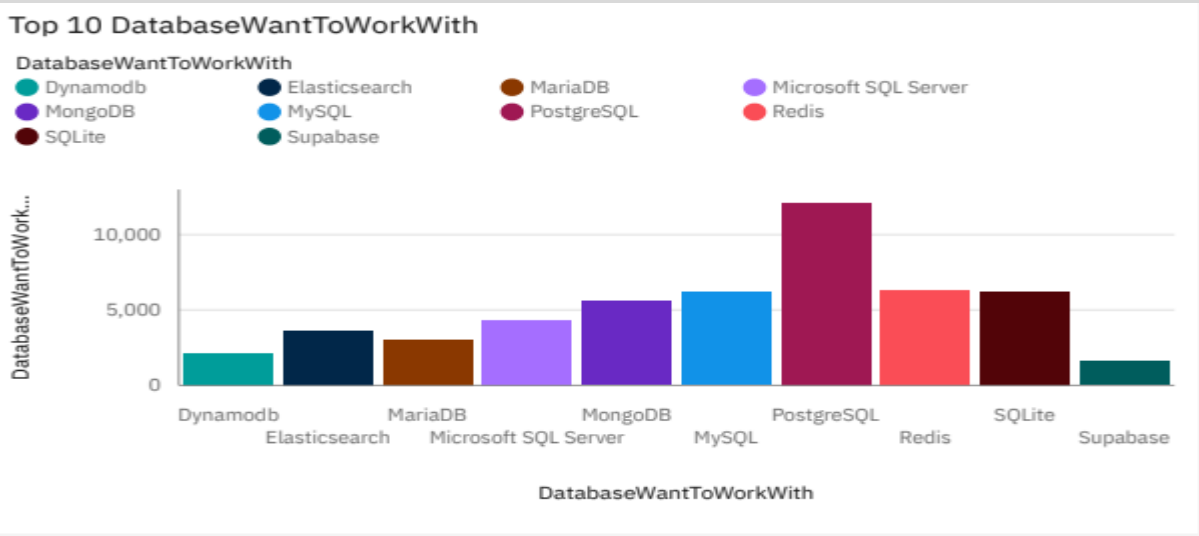
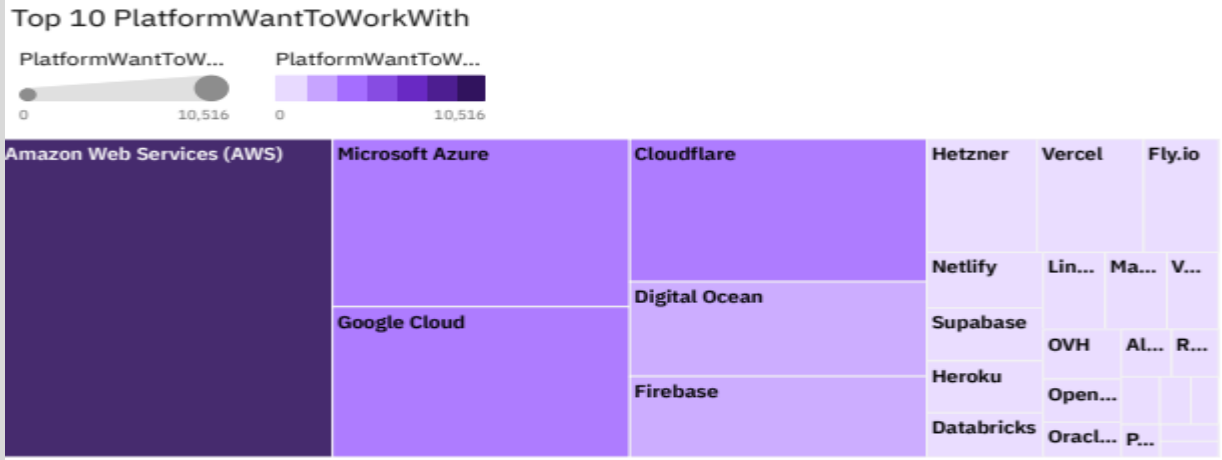
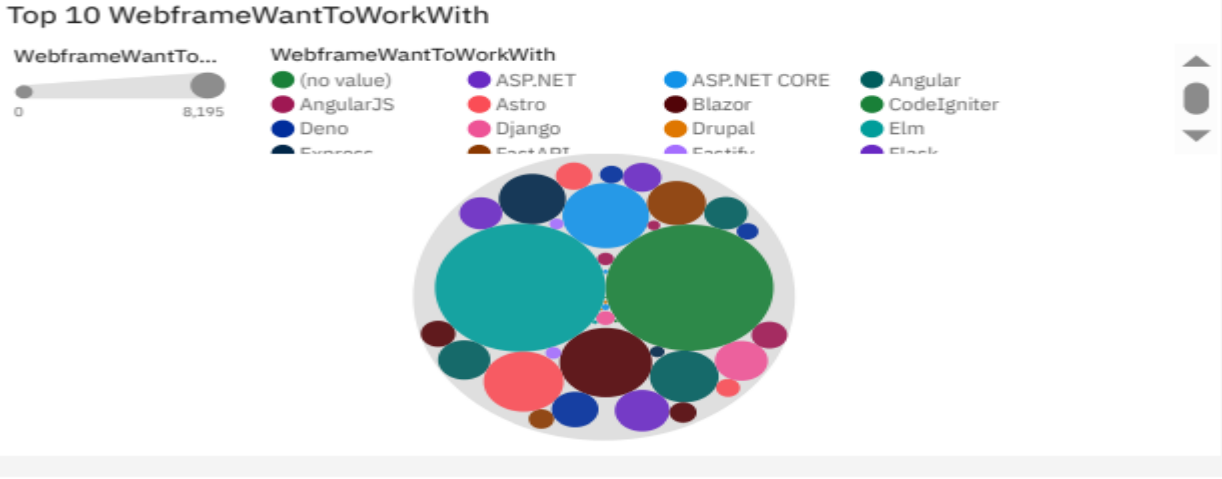
FUTURE TECHNOLOGY TRENDS

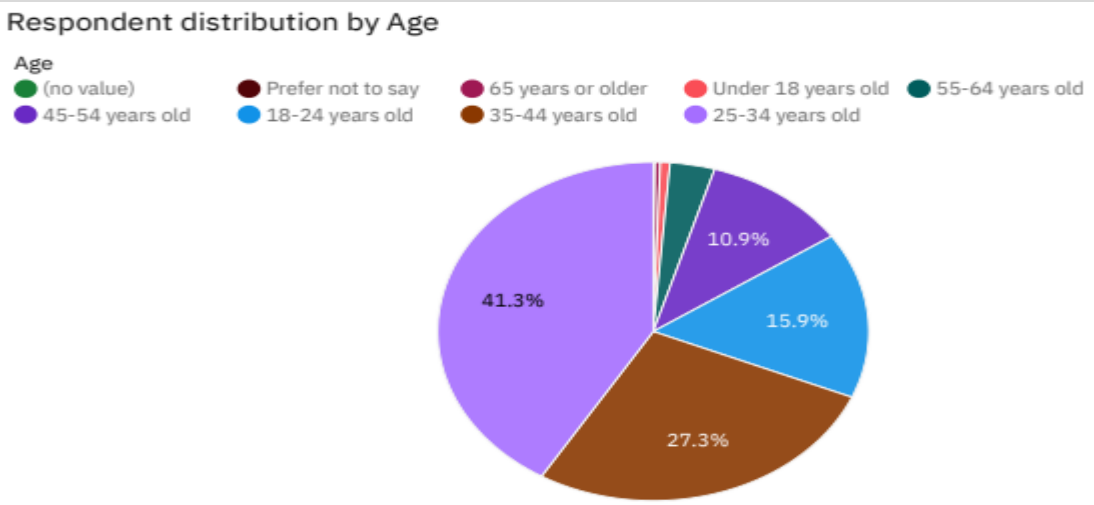


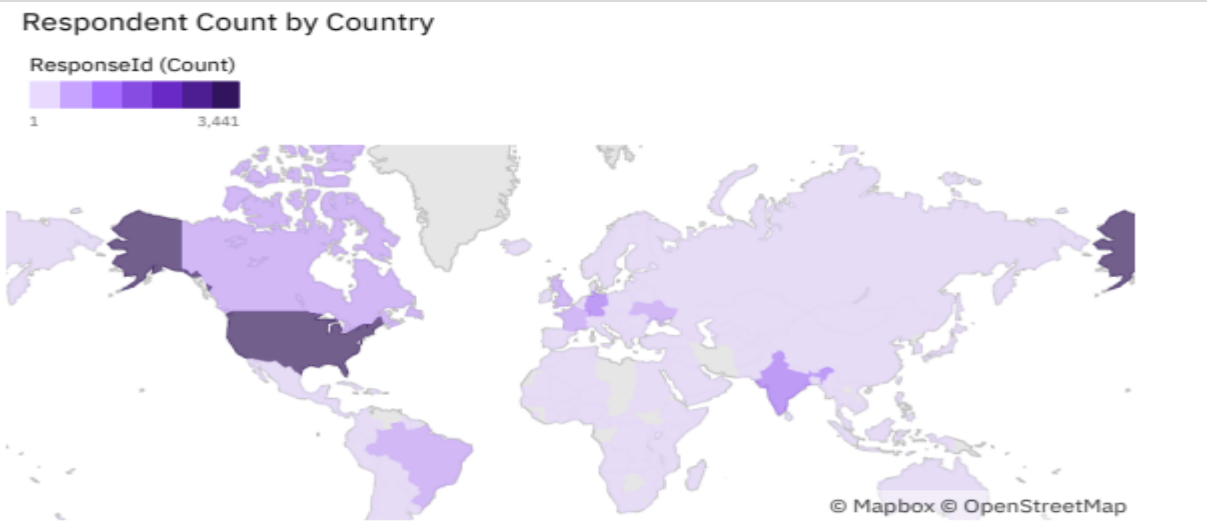


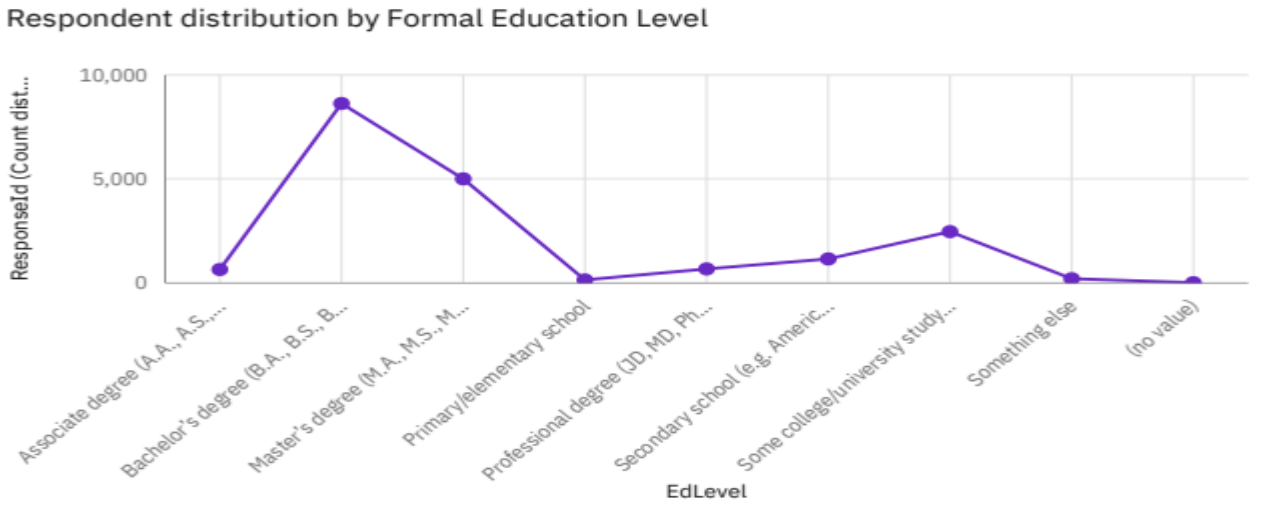


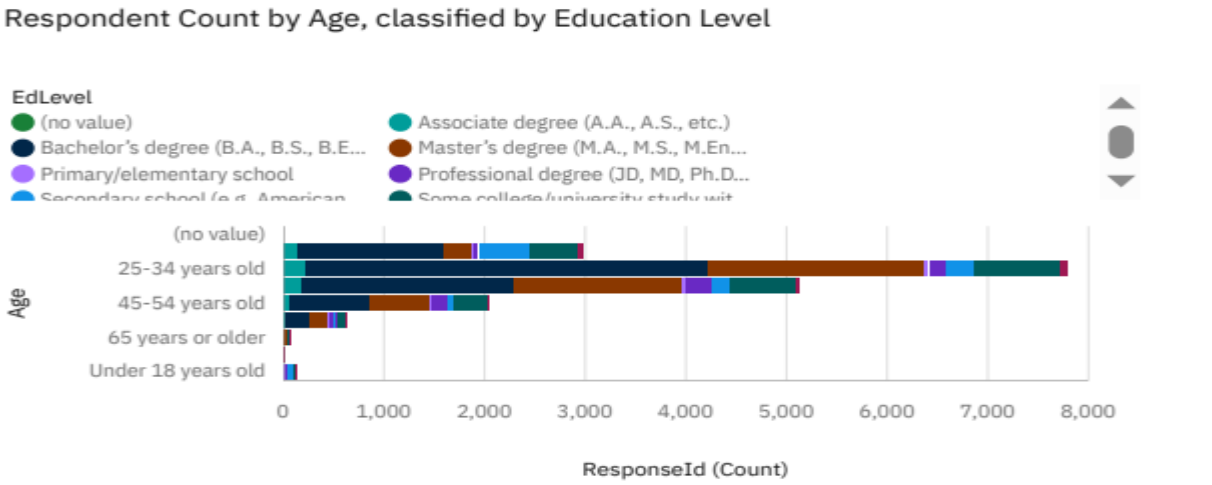


DEMOGRAPHICS









DISCUSSION

- JavaScript and SQL dominate as leading languages, with PostgreSQL topping database preferences—underscoring the surge in web development.
- Most developers are aged 20–40 and hold a Bachelor's or Associate degree, reflecting strong educational focus.

OVERALL FINDINGS & IMPLICATIONS

Findings

- JavaScript and SQL lead as dominant languages, with PostgreSQL topping databases.
- Most developers are middle-aged and from developed nations.
- Strong educational background with degrees and certifications.

Implications

- Web development demand remains high, driven by popular languages.
- AWS is the top cloud platform among developers.
- Growing database use signals rising need for data management and analytics.

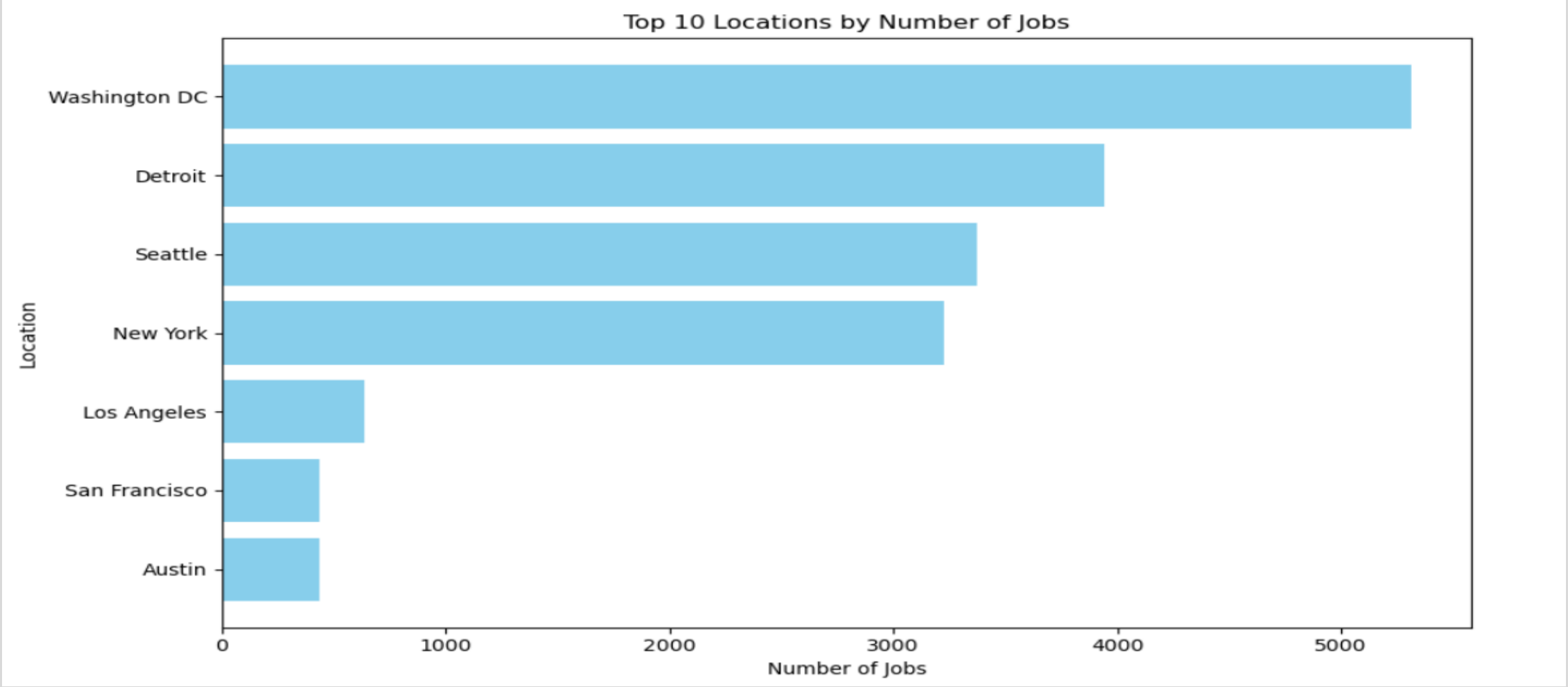
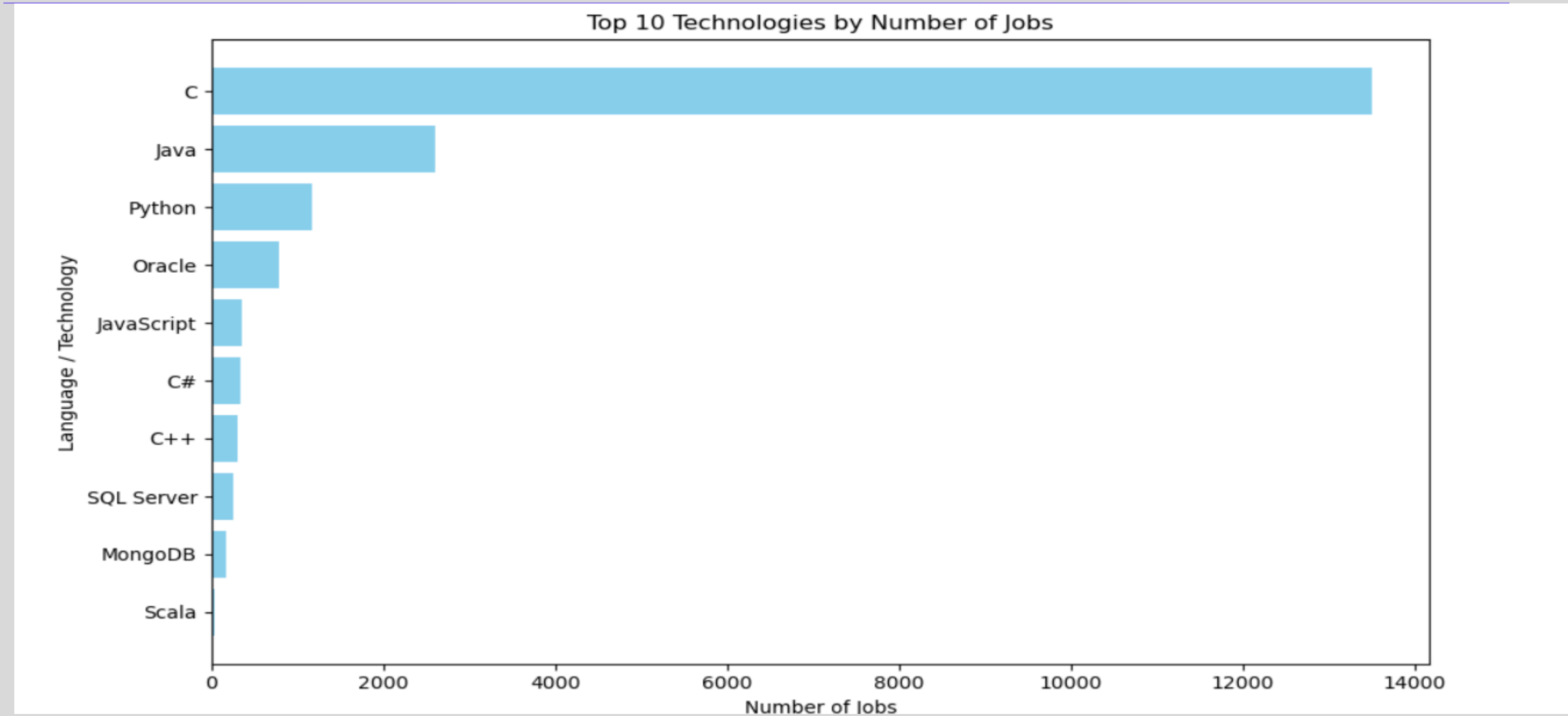
CONCLUSION

- Web development remains a timeless and in-demand tech skill.
- Developers continuously explore new technologies, databases, and platforms alongside core tools.
- Tech adoption spans all age groups, reflecting growing digital engagement.

APPENDIX

- JOB POSTINGS CHART

JOB POSTINGS



POPULAR LANGUAGES