



Technology Trends & Analysis Presentation

Hajir Hassan
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OUTLINE



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

EXECUTIVE SUMMARY



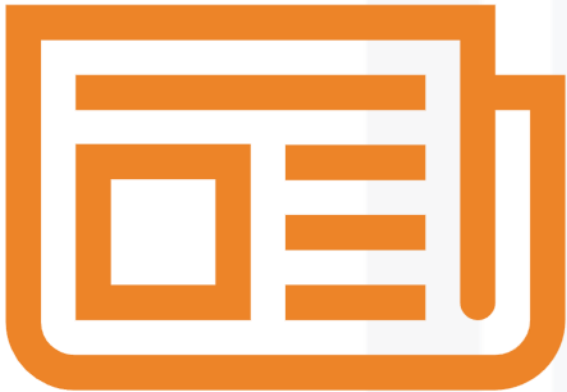
- Data contextualization and analysis goals
- Methodology description
 - Data gathering
 - Data analysis
 - Data visualization
- Results presentation supported with graphs and trends
- The overall findings and implications regarding the results
- final conclusions

INTRODUCTION



- The dataset we used (The 2019 Stack Overflow Developer Survey Results) comes from the following source: <https://stackoverflow.blog/2019/04/09/the-2019-stack-overflow-developer-survey-results-are-in/>
- Stack Overflow's annual Developer Survey is the largest and most comprehensive survey of people who code around the world
- nearly 90,000 developers took the 20-minute survey
- This survey covered everything from developers' favorite technologies to their job preferences.

METHODOLOGY



- **Data Collection**

- Collecting Data Using APIs
- Collecting Data Using Web scraping

- **Data Wrangling**

- Finding Missing Values/Determine Missing Values/Finding Duplicates / Removing Duplicates and Normalizing Data

- **Exploratory Data Analysis**

- Finding Outliers
- Correlation

- **Data Visualization**

- Visualizing Distribution of Data , Relationship , Composition and Comparison

- **Dashboards**

RESULTS

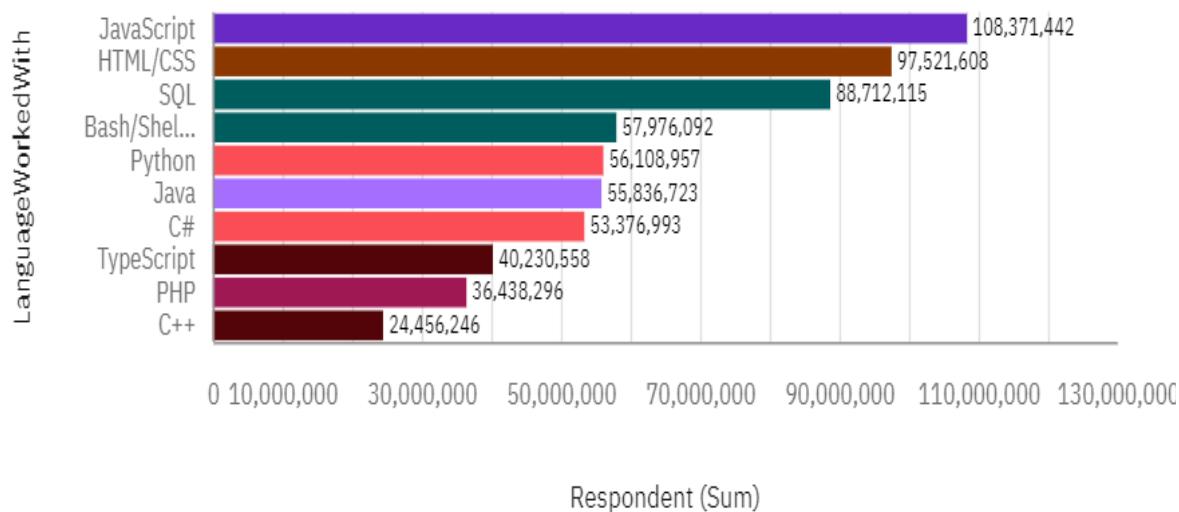
- Python, the fastest-growing major programming language, has risen in the ranks of programming languages edging out Java and standing as the second most loved language (behind Rust).
- Over half of respondents had written their first line of code by the time they were sixteen, although this experience varies by country and by gender.
- [DevOps specialists](#) and site reliability engineers are among the highest paid, most experienced developers most satisfied with their jobs, and are looking for new jobs at the lowest levels.
- Of the top countries China has developers that are the most optimistic, believing that people born today will have a better life than their parents. Developers in Western European countries like France and Germany are among the least optimistic about the future.
- Men are more likely to say that being tasked with non-development work is a problem for them, while gender minority respondents are more likely to say that toxic work environments are a problem.

PROGRAMMING LANGUAGE TRENDS

Current Technology Usage

TOP 10 Language Worked With

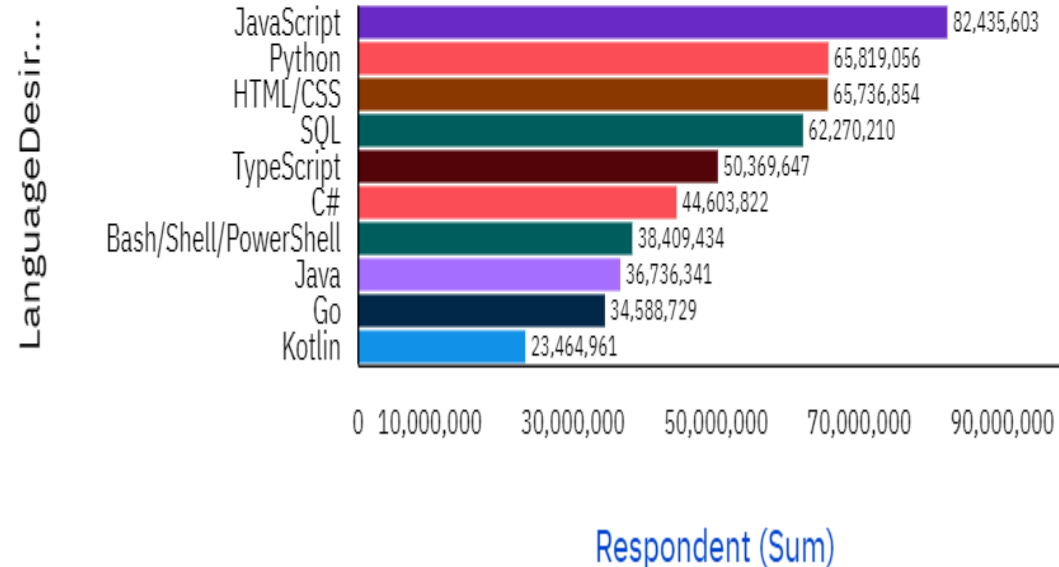
LanguageWorkedWith



Future Technology Trend

Top 10 language Desire Next Year

LanguageDesireNextYear



PROGRAMMING LANGUAGE TRENDS – FINDINGS & IMPLICATIONS

Findings

- JavaScript seems to keep as leading language
- Python is the fastest-growing major programming language
- Great interest in TypeScript

Implications

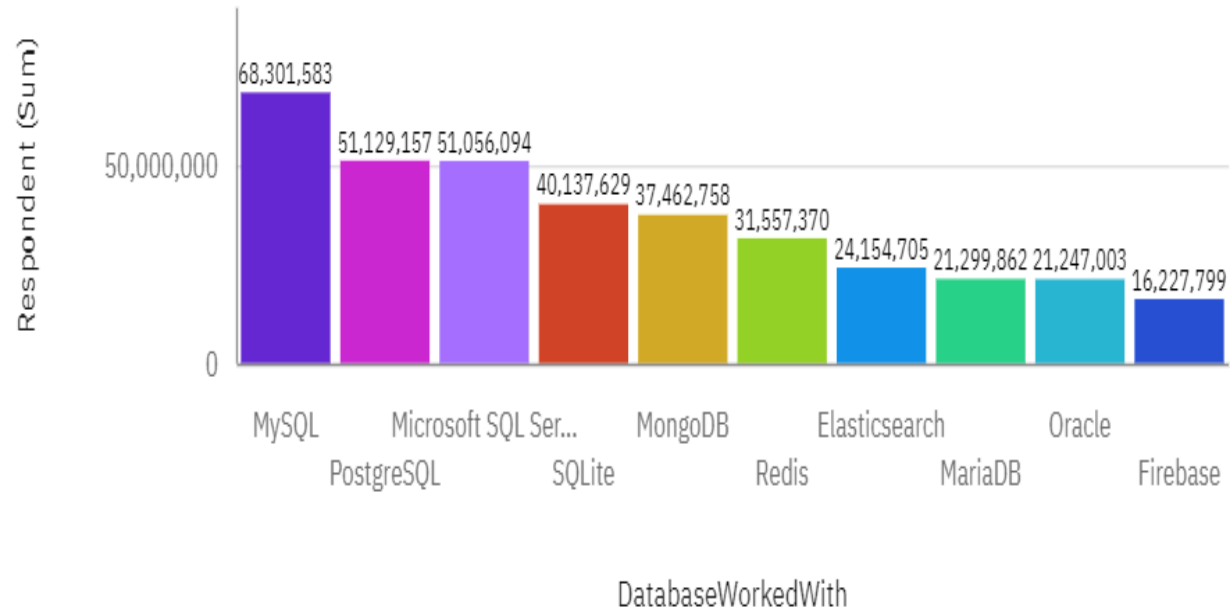
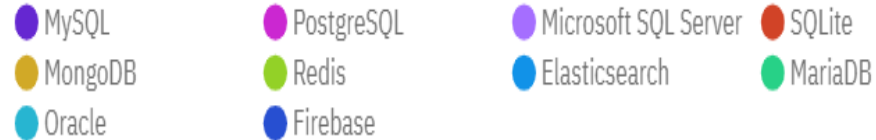
- Possible migration from JavaScript to TypeScript
- Big companies still require using SQL

DATABASE TRENDS

Current Year

Top 10 Database Worked With

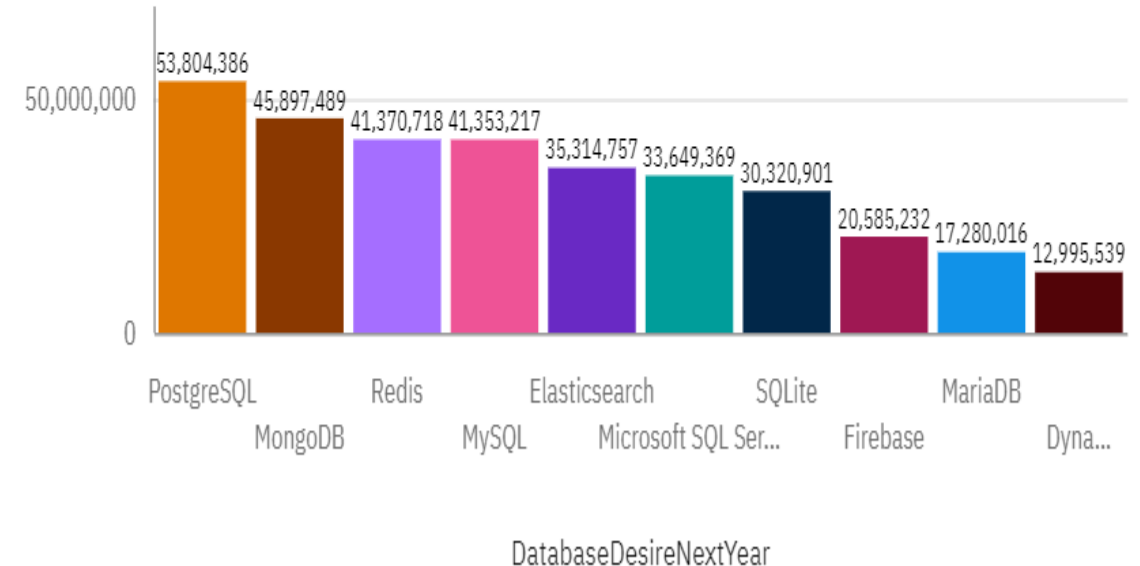
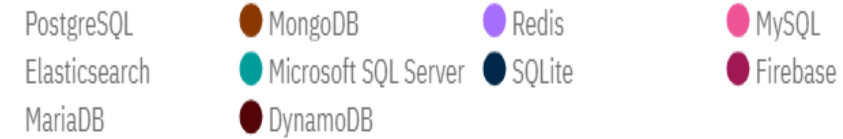
DatabaseWorkedWith



Next Year

Top 10 Database Desire Next Year

DatabaseDesireNextYear



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL is the most commonly used database
- PostgreSQL has taken the second spot edging ahead of Microsoft SQL Server.
- Increasing interest in PostgreSQL and MongoDB

Implications

- Microsoft SQL Server and SQLite losing ground in the market
- PostgreSQL and MongoDB establishment in the market

DASHBOARD



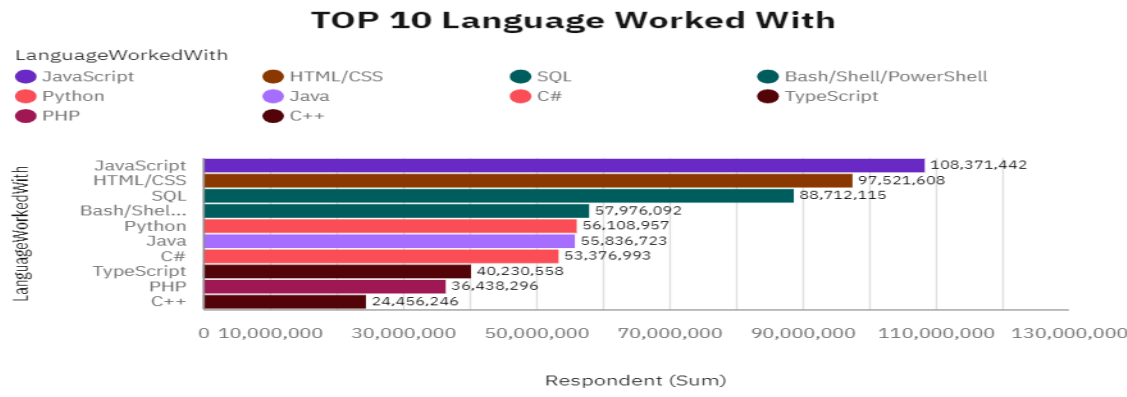
<https://github.com/hajiragabna/data-analysis/blob/main/data%20analysis%20dashboard.pdf>

DASHBOARD TAB 1

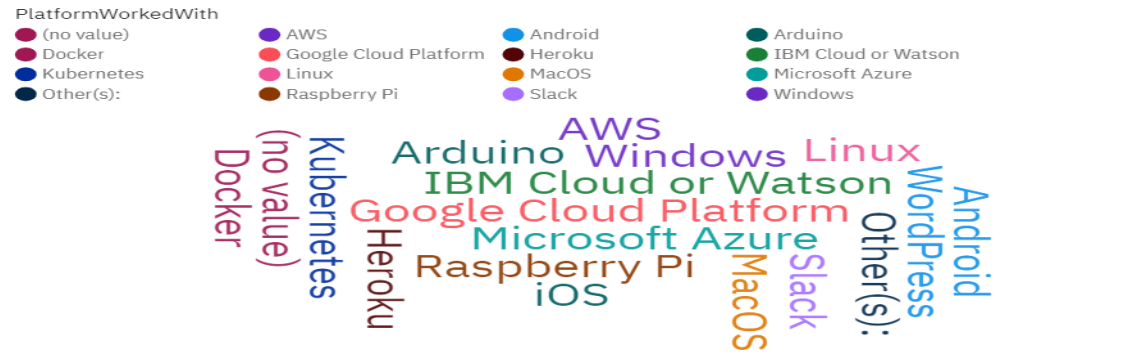
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data analysis dashboard

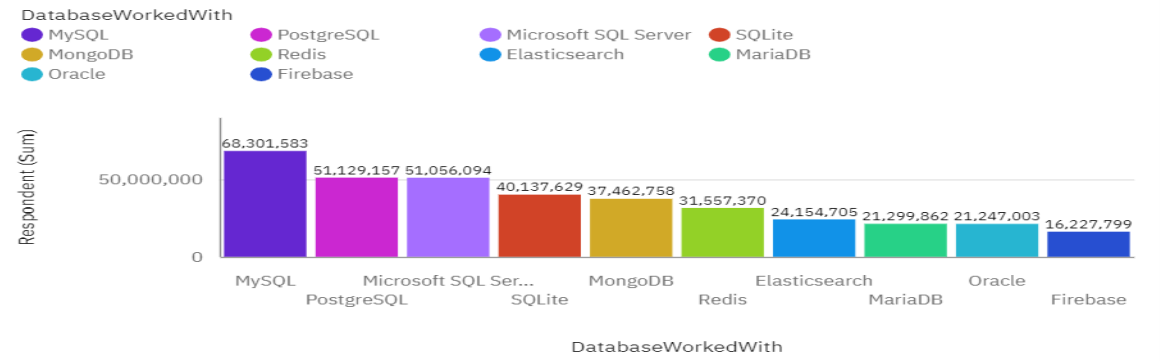
Current Technology Usage



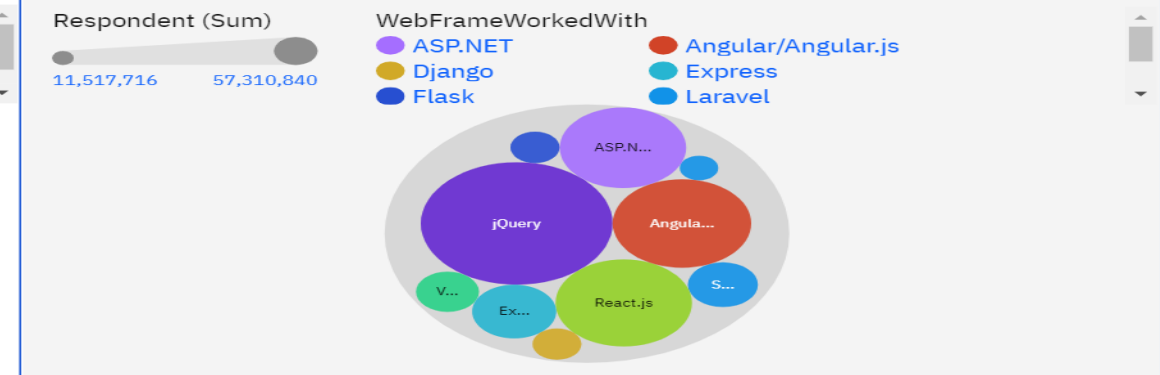
PlatformWorkedWith sized by Respondent



Top 10 Database Worked With



Top 10 Web Frame Worked With

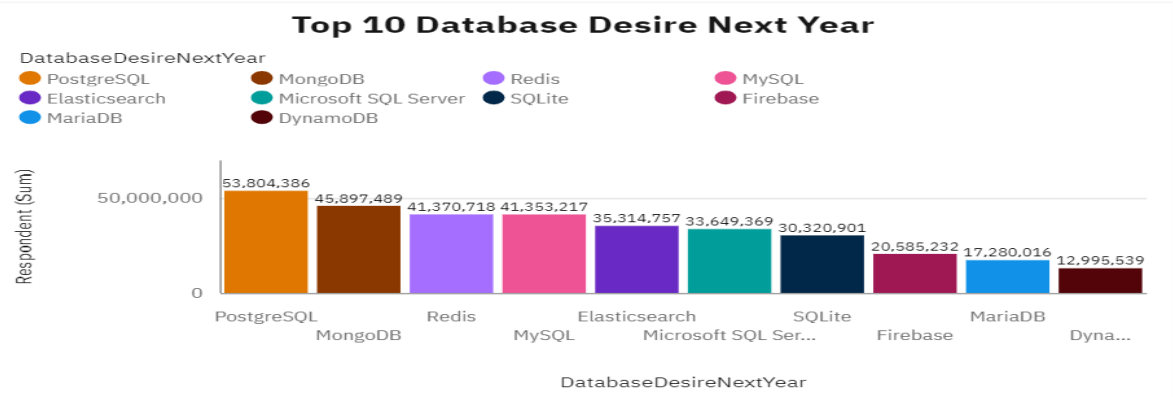
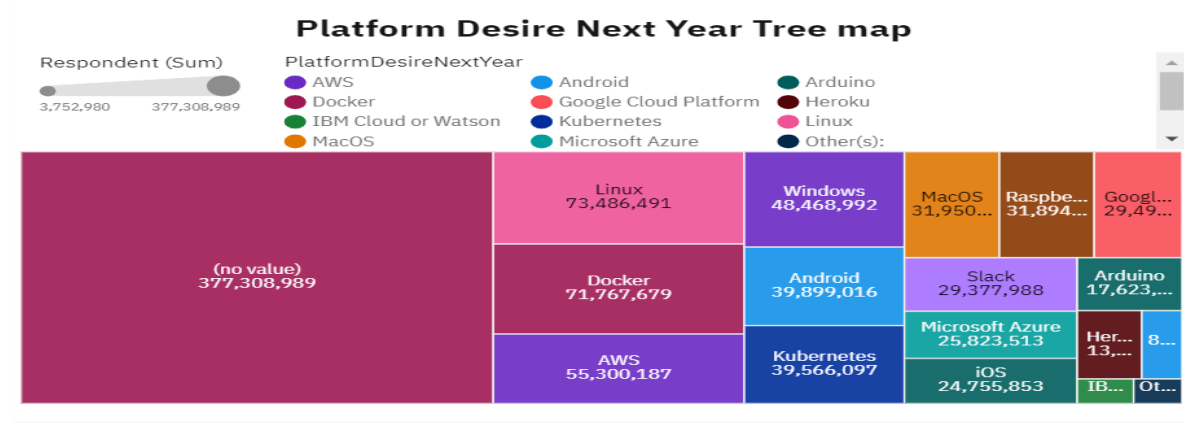
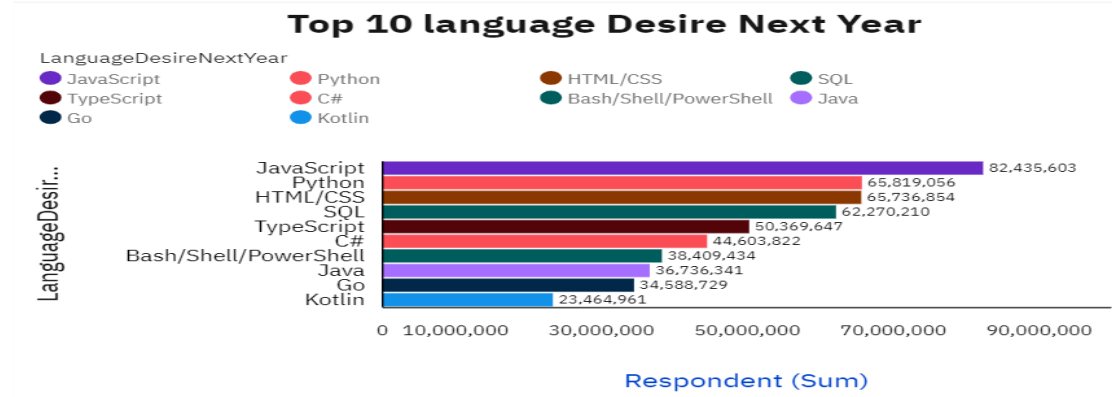


DASHBOARD TAB 2

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data analysis dashboard

Future Technology Trend



DASHBOARD TAB 3

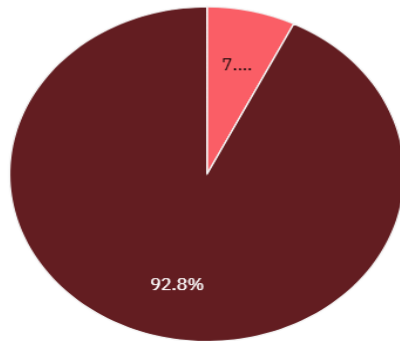
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data analysis dashboard

Demographics

Respondent by Gender

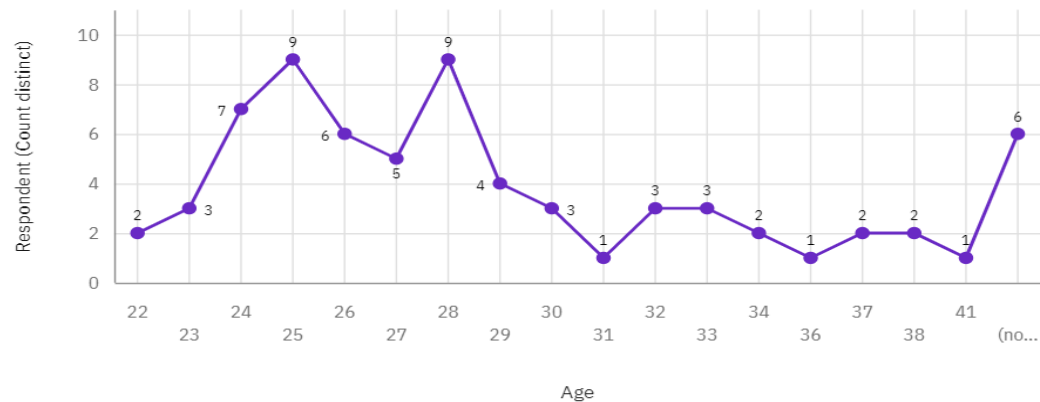
Gender
● Woman ● Man



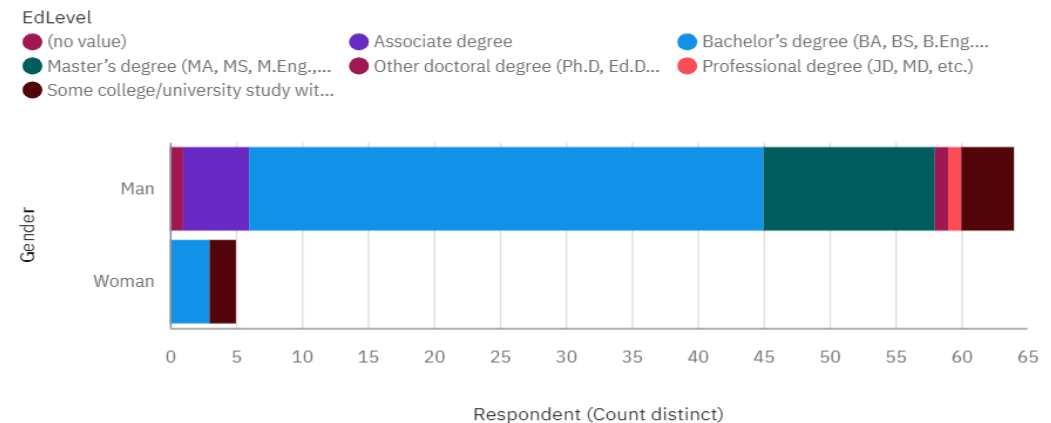
Respondent Count for Countries



Respondent count by Age



Respondent Count by Gender, classified by Formal Education Level.



DISCUSSION



- The dominance of **JavaScript** and **HTML/CSS** and the adoption of **MySQL** as the leading database management system
- Highlights the central role of **web development** in the programming landscape
- Opens up discussions on the significance of **client-side scripting and styling**, trends in web development frameworks, and the evolving nature of **web technologies**

OVERALL FINDINGS & IMPLICATIONS

Findings

- JavaScript widely used and TypeScript getting popular
- Over 90% young male developers
- Developers most located in developed countries

Implications

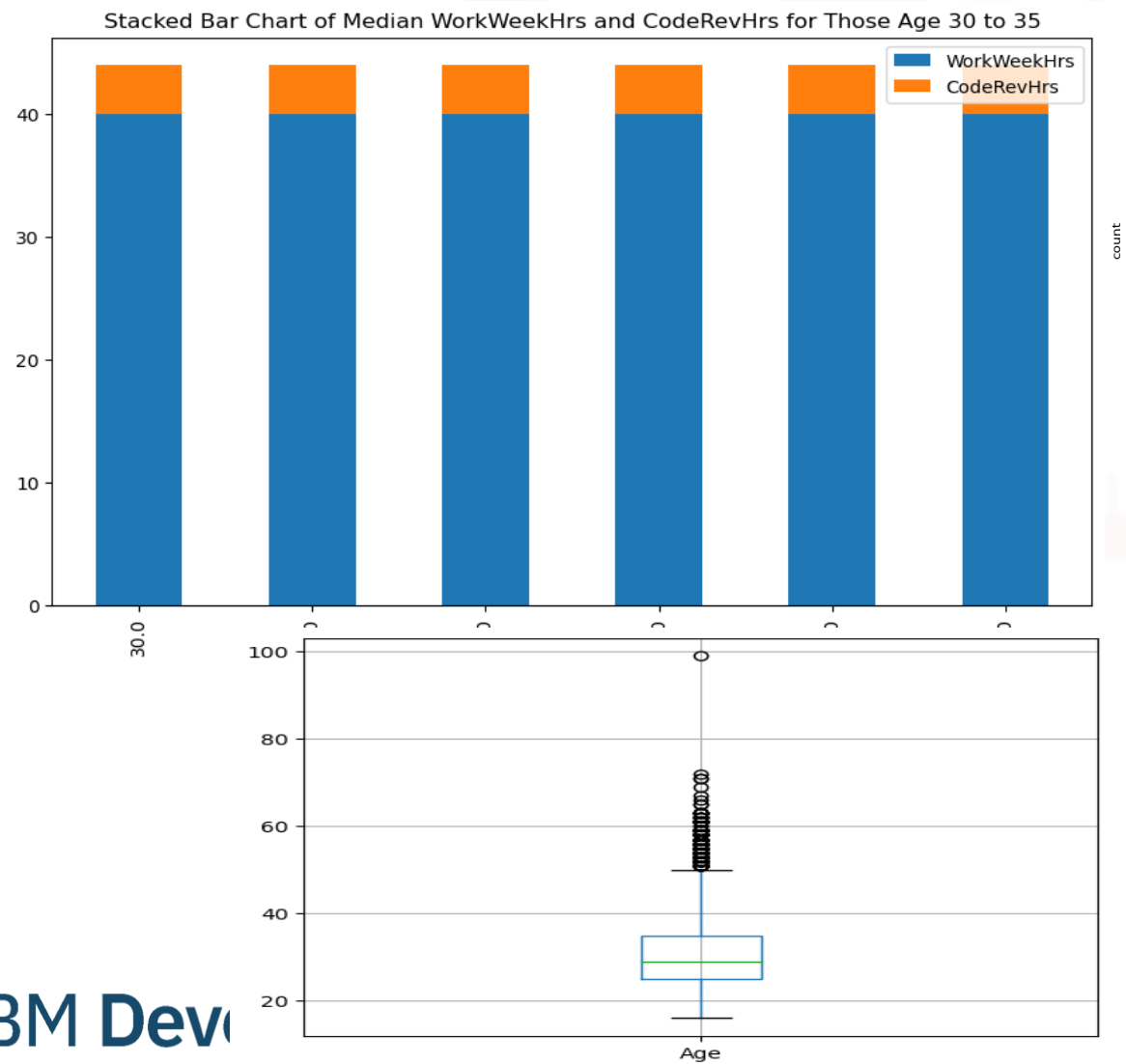
- JavaScript and TypeScript gaining followers
- Global polarization of developers location and gender.
- Respondant are enrolled in a formal college or university program full-time or part-time

CONCLUSION

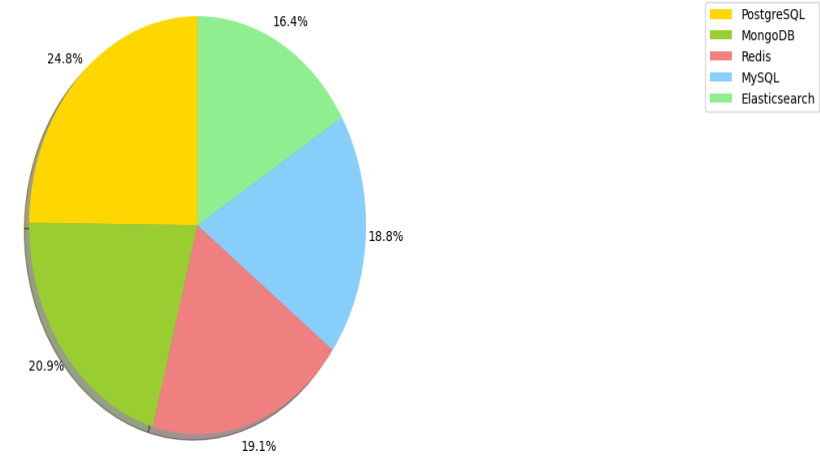


- About 50% of respondents identify as full-stack developers, and about 17% consider themselves mobile developers
- Developers who work with Rust, WebAssembly, and Elixir contribute to open source at the highest rates, while developers who work with VBA, C#, and SQL do so at about half those rates.
- About 80% of respondents say that they code as a hobby
- About one-quarter of respondents are enrolled in a formal college or university program full-time or part-time.
- Developers are lifelong learners; almost 90% of all developers say they have taught themselves a new language, framework, or tool outside of their formal education

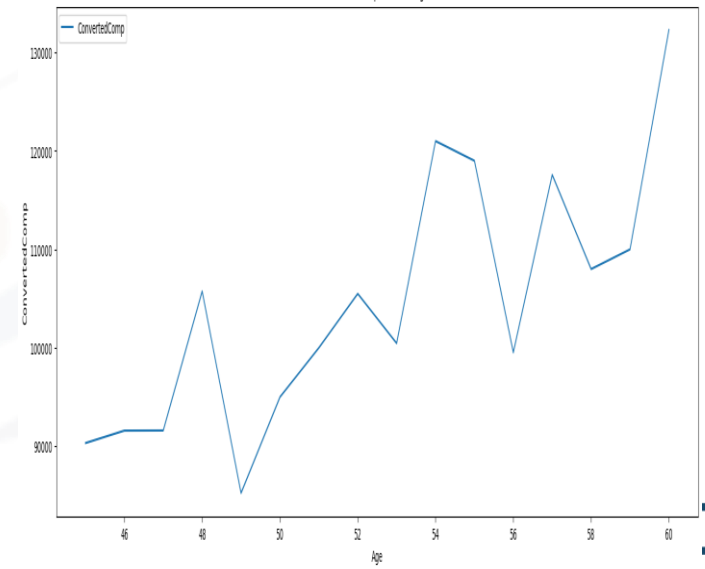
APPENDIX



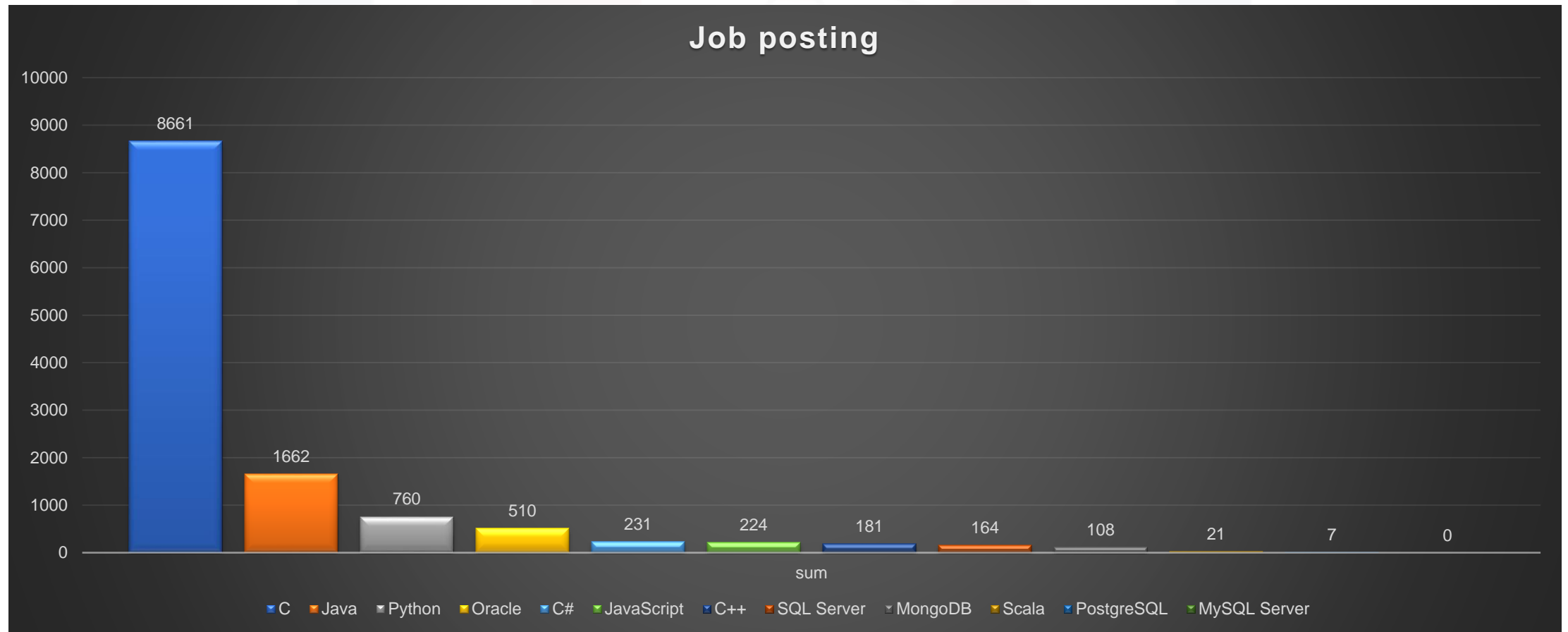
Top 5 Databases Respondents Wish To Learn



Median ConvertedComp for Those Age 45 to 60



JOB POSTINGS



POPULAR LANGUAGES

