



Stack Overflow Developer Survey Results in 2019

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EXECUTIVE SUMMARY

We have used a modified subset of the dataset for the Stack Overflow' s annual Developer Survey which is the largest and most comprehensive survey of people who code around the world. Throughout this analysis, we got the following top takeaways from this year' s results:

- JavaScript, MySQL, Windows, and jQuery were the most used language, database, platform and web frame the users used respectively
- By the year of 2020, JavaScript, PostgreSQL, Linux, and React.js is going to be the most used language, database, platform and web frame the users used respectively
- Demographic analysis showed that majority of respondents were men.
- Location-wise, China has the most respondent compared to the rest of the world.
- Age ranges which has the most contribution were between 25-35 years old.
- College students (Bachelor, Master and PhD) have the most contribution in this survey.



INTRODUCTION

Stack Overflow's annual Developer Survey, the largest of its kind, gathers insights from nearly 90,000 developers worldwide. This year's survey explores how developers learn, their tool preferences, and their experiences in the tech industry. While the survey offers valuable insights, we acknowledge the need to better represent the diverse developer community and are committed to making our platform more inclusive.

Key Points:

- **Survey Scope:** Nearly 90,000 developers participated, making this the most comprehensive global developer survey.
- **Programming Language Trends:** Python continues to rise, now the second most loved language, overtaking Java.
- **High-Paying Roles:** DevOps specialists and site reliability engineers are among the highest-paid and most satisfied developers.
- **Global Optimism:** Chinese developers are the most optimistic about the future; those in Western Europe are less so.
- **Productivity Challenges:** Men cite non-development tasks as barriers, while gender minorities point to toxic work environments.

Time Savings: Stack Overflow helps developers save 30 to 90 minutes per week on coding problems.



METHODOLOGY

- This report is based on a survey of 88,883 software developers from 179 countries, conducted between January 23 and February 14.
 - Qualified responses were those where participants spent sufficient time to complete the survey, with a median completion time of 23.3 minutes.
 - Respondents were primarily recruited through Stack Overflow's channels, including onsite messaging, blog posts, and social media.
- To ensure data accuracy, salaries were reported in respondents' local currencies and then converted to USD using exchange rates from February 1, 2019, with all values standardized to annual salaries.
 - The top 2% of salaries were trimmed to manage outliers.
- The survey also accounted for accessibility limitations due to geopolitical restrictions, and questions were tailored based on respondents' previous answers to ensure relevance.
 - The content was developed using data from last year's survey and current technology trends on Stack Overflow, focusing on popular and emerging technologies.

RESULTS

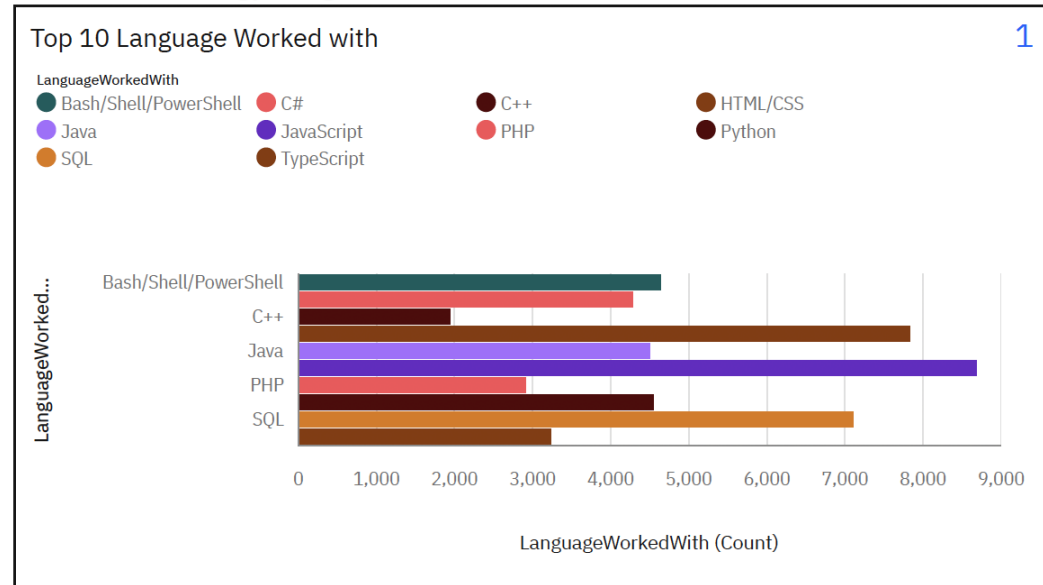
Here are a few of the top takeaways from this year's results:

- **Java Popularity:** JavaScript was the superior language by the year of the analysis
- **Early Coding Start:** Over half of respondents began coding before age sixteen, with variations by country and gender.
- **Top-Paying Roles:** DevOps specialists and site reliability engineers are among the highest-paid, most experienced, and most satisfied developers.
- **Global Optimism:** Developers in China are the most optimistic about the future, while those in Western Europe, particularly France and Germany, are the least optimistic.

PROGRAMMING LANGUAGE TRENDS

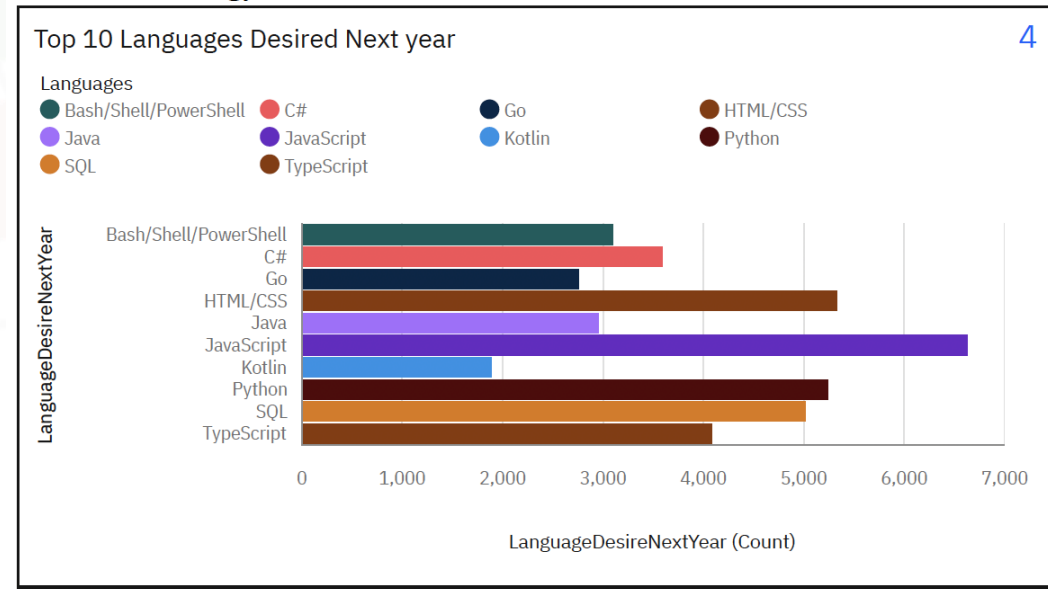
Current Year

Current Technology Usage



Next Year

Future Technology Trend



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

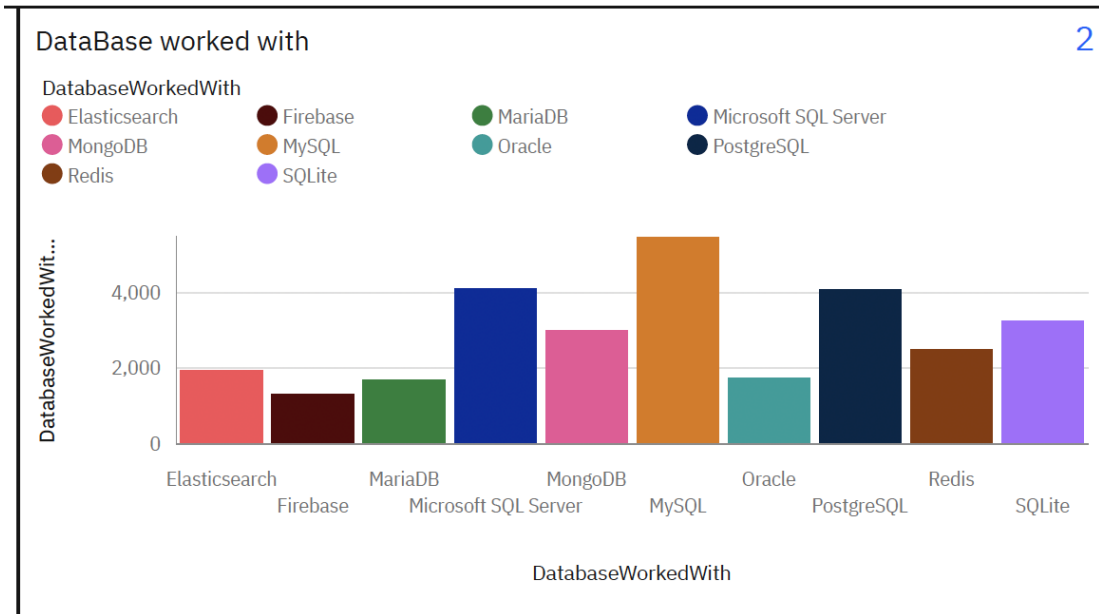
- By the year of this survey, JavaScript was the leading language used by the user
- HTML/CSS and SQL were the next two in a row

Implications

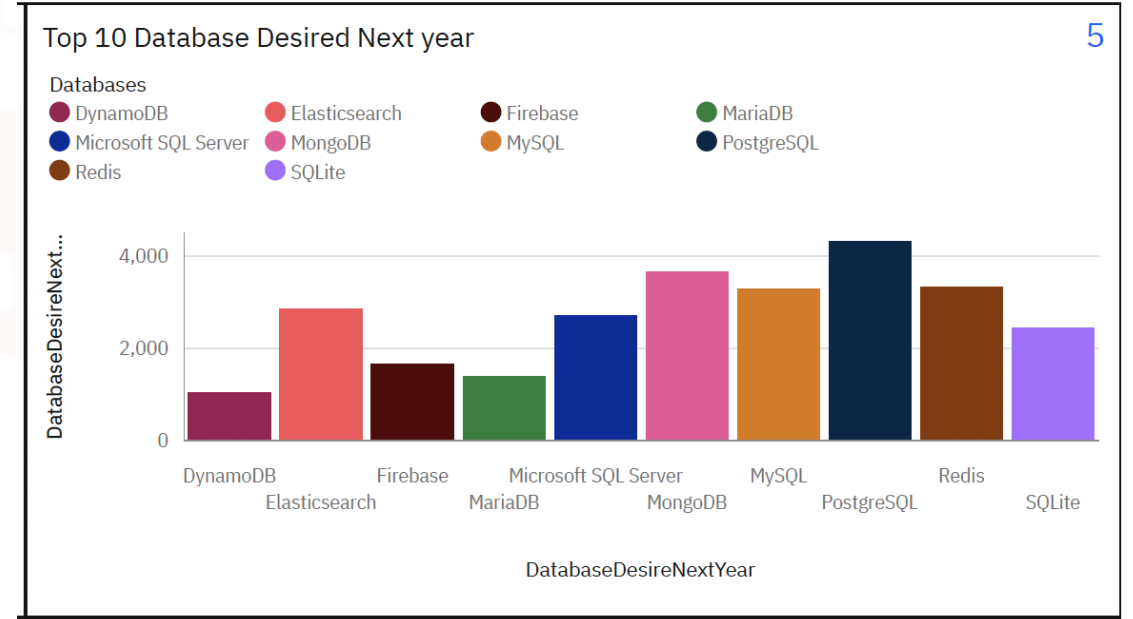
- Python which was not in the top 3 list, would be the leading language in the next year.

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL and Microsoft SQL Server were the leading database by 2019

Implications

- PostgreSQL is going to be the next leader in databases by the next year



DASHBOARD

You can see the report webpage on github using:

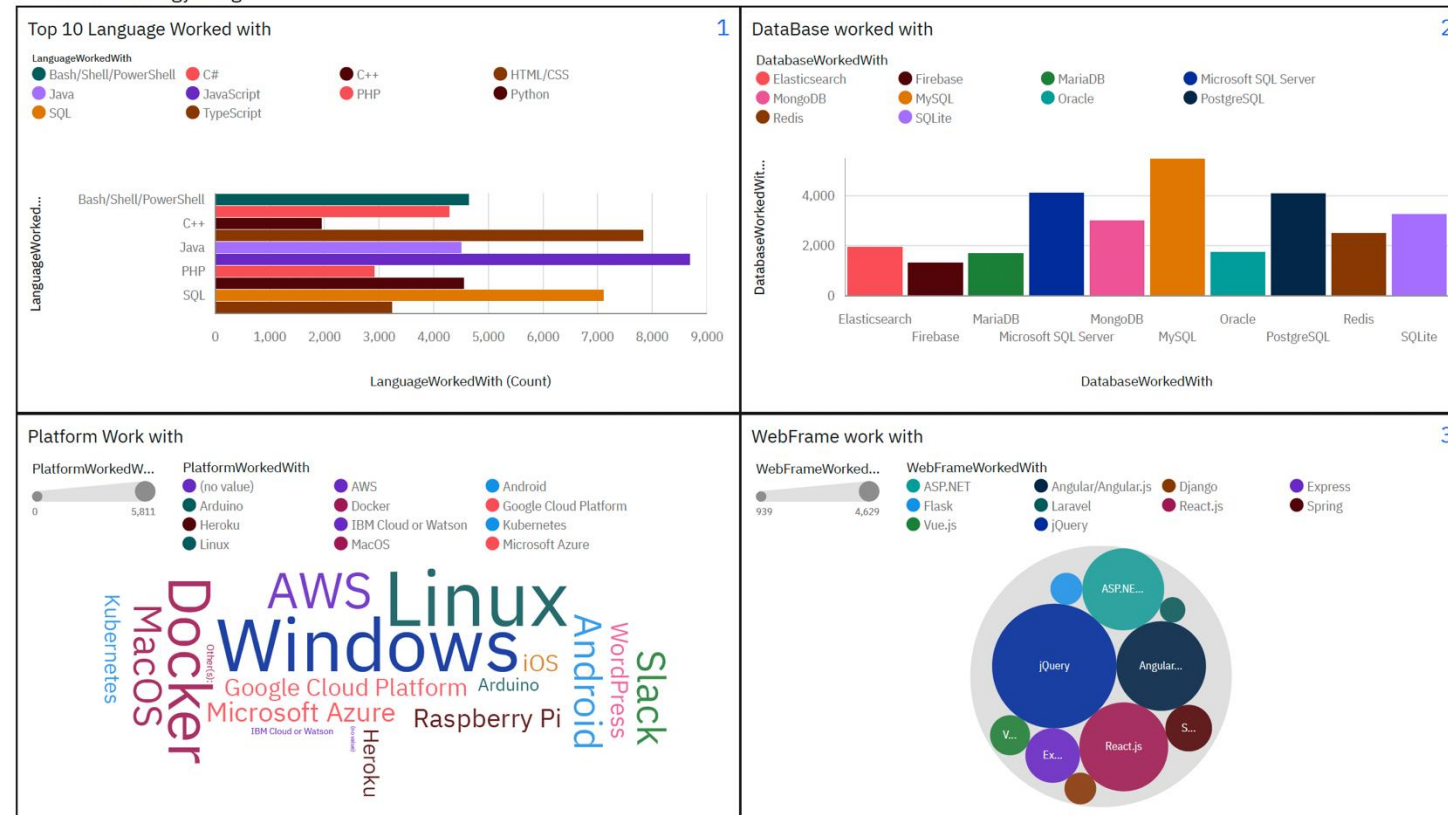
https://github.com/HadiShali/Final-Project_Coursera/blob/main/Final%20Project.pdf

DASHBOARD Current Technology Usage

Final Project

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Current Technology Usage

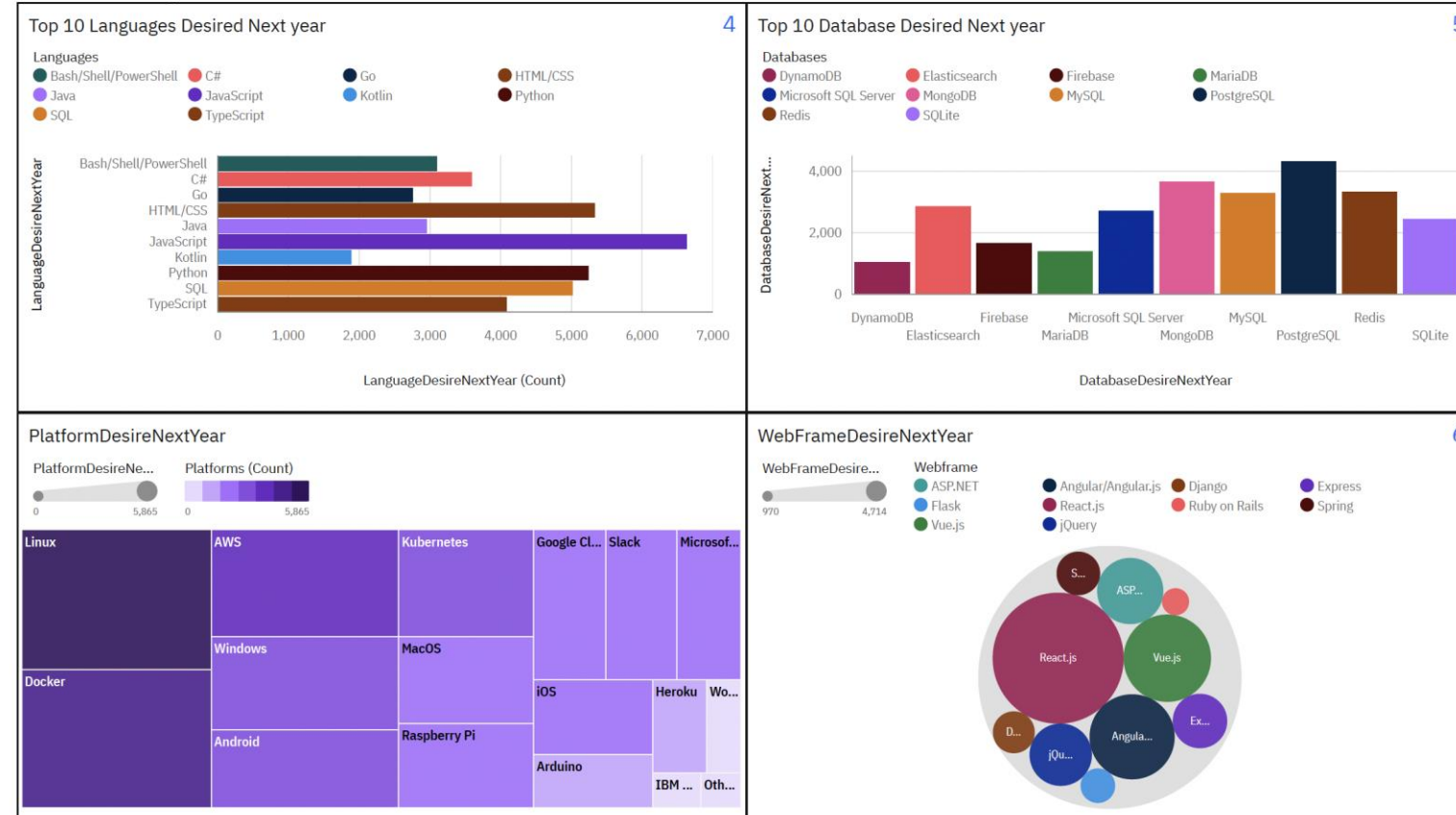


DASHBOARD Future Technology Trend

Final Project

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Future Technology Trend

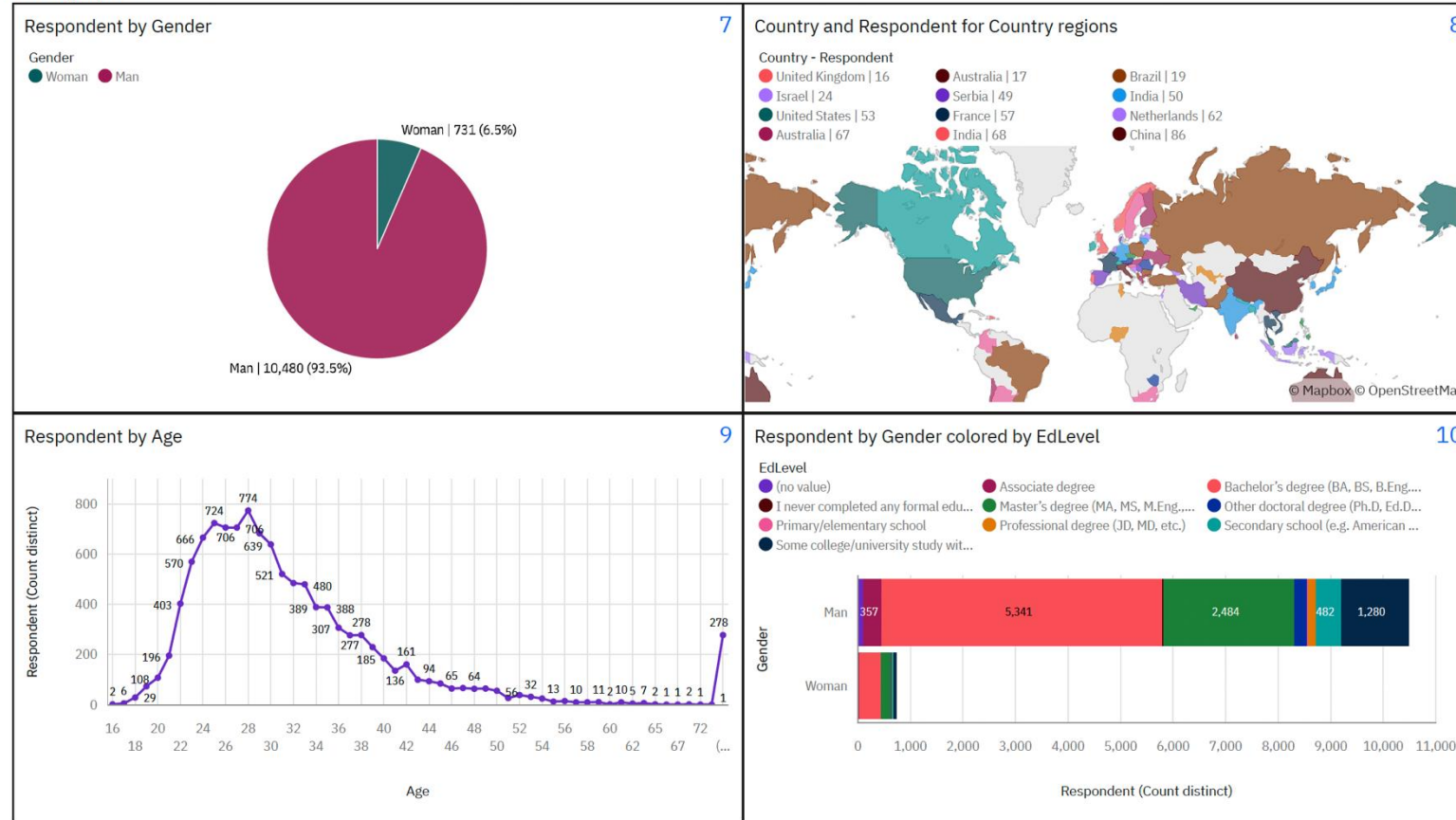


DASHBOARD Demographic

Final Project

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Demographics





DISCUSSION

- All the languages, platforms, and databases are growing
- Most of the users are with the gender of man or woman in the range of 25-45 years
- China is the leading country in this survey.
- Most of the respondents are men (around 94%)

OVERALL FINDINGS & IMPLICATIONS

Findings

- New programming languages are growing
- Also new web frames are becoming more privileges
- Students are the most users of guiding websites

Implications

- Any data analyst should be update and be aware
- Needing to coding is growing up



CONCLUSION

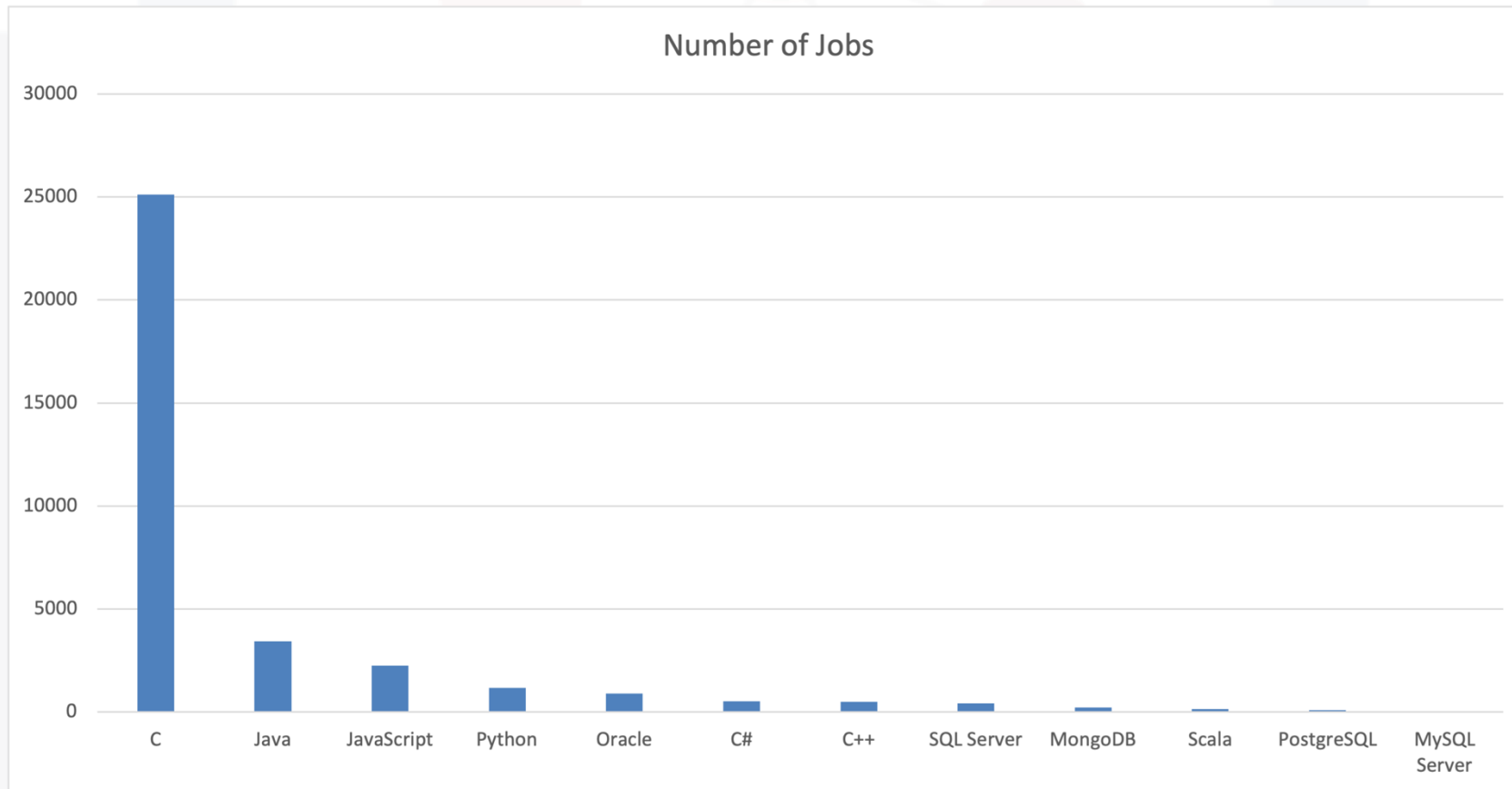
- Python's Continued Rise: Python solidifies its position as a top programming language, reflecting ongoing trends in developer preferences.
- Early Engagement: A significant portion of developers start coding early, indicating the importance of early education and access to coding resources.
- Varied Global Perspectives: Optimism about the future varies significantly by region, with Chinese developers being the most hopeful and Western Europeans more cautious.
- Impact of Stack Overflow: The platform continues to be a valuable resource, saving developers considerable time in their workflows.

APPENDIX



- additional charts, or tables that we created during the analysis phase:

JOB POSTINGS



POPULAR LANGUAGES

