



# **TRENDING TECHNOLOGIES: STACK OVERFLOW DEVELOPER SURVEY, 2019**

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# EXECUTIVE SUMMARY

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- Top programming languages:
  - JavaScript, HTML/CSS, SQL, Bash/Shell/PowerShell, Python
- Top database skills:
  - My SQL, Microsoft SQL Server, Postgre SQL, SQLite, MongoDB
- Popular platforms:
  - Windows, Linux, Docker, AWS, Slack
- Popular Web Frames:
  - jQuery, Angular/Angular.js, React.js, ASP.NET, Express
- Future Technology Trend:
  - **Python** takes the third row, followed by **SQL** and **TypeScript**
  - **Redis** and **Elasticsearch** also place in Top 5
  - **Android** is in the Top 5 demanded platforms, the rest remains
  - **React.js** takes the first row and **Vue.js** is the latest addition as the last

# INTRODUCTION

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- several key trends have emerged in recent years
- insights shed light on the evolving landscape of programming languages, web frameworks, and the demographics of professional developers
- **Stack Overflow** conducts an inclusive survey of individuals engaged in coding globally
- wide array of topics from preferred technologies to career aspirations, 2019 marks the 9th consecutive year of survey publication
- nearly 90,000 developers participated in the 20-minute survey in 2019 Survey

# METHODOLOGY

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- Data is based on the survey conducted by **Stack Overflow** and involved **88,883 software developers** from **179 countries**.
- Familiarization with this dataset was achieved through completing **IBM** labs on **Coursera**, which encompassed topics such as Web Scraping, Dataset Exploration, Data Wrangling, Exploratory Data Analysis, and Data Visualization.
- Data analysis and visualization was conducted via **IBM Cognos Analytics**.

# RESULTS

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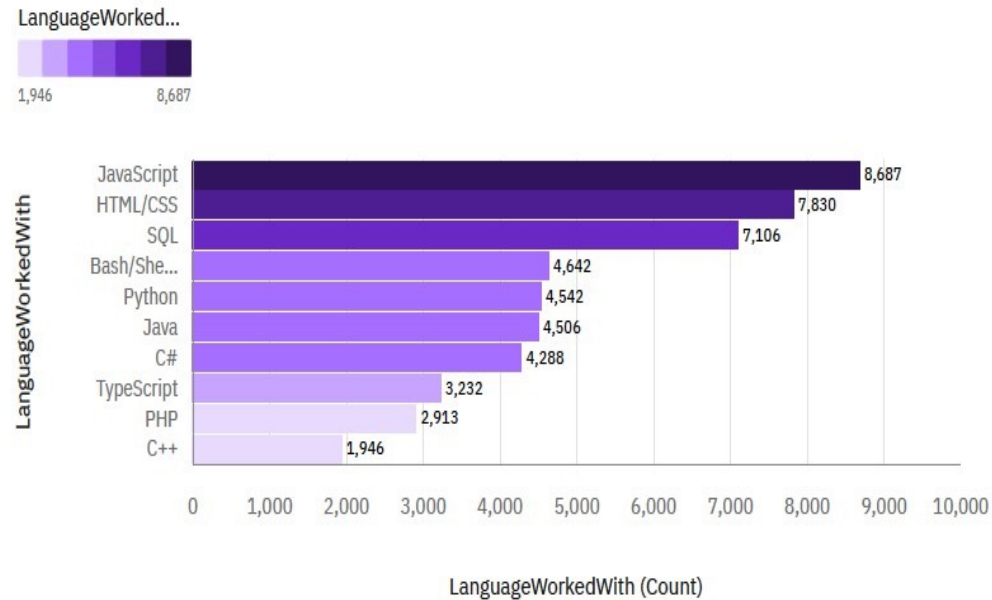


- **Python** overtakes **Java**, becoming the 5th most preferred language with significant growth. It stands as the fastest-growing major programming language.
- **JavaScript** remains the most used programming language.
- **jQuery** is the most widely used among web frameworks, with **React.js** surpassing **Angular** in developer usage this year.
- Globally, *men* represent approximately **90%** of respondents, with higher *female* representation among students than professional developers in regions like the US, India, and the UK.
- Around 3/4 of professional developers globally hold at least a **bachelor's degree**, aligning with past findings.
- 3/4 of survey respondents in professional developer roles are **under 35 years old**.

# PROGRAMMING LANGUAGE TRENDS

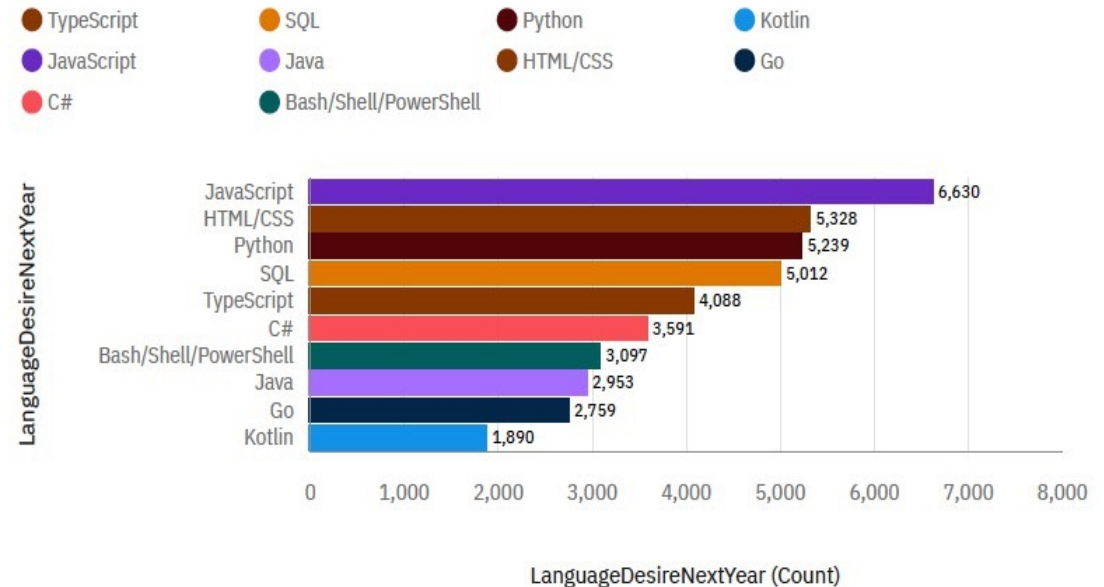
2019

Top 10 Language Worked With



Following Year

Top 10 Language Desire Next Year



# PROGRAMMING LANGUAGE TRENDS

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## FINDINGS

- **JavaScript** and **HTML/CSS** emerge as the most used programming languages among all respondents
- **SQL** also maintains a significant presence.
- **Python** just edged out **Java** in overall ranking.

## IMPLICATIONS

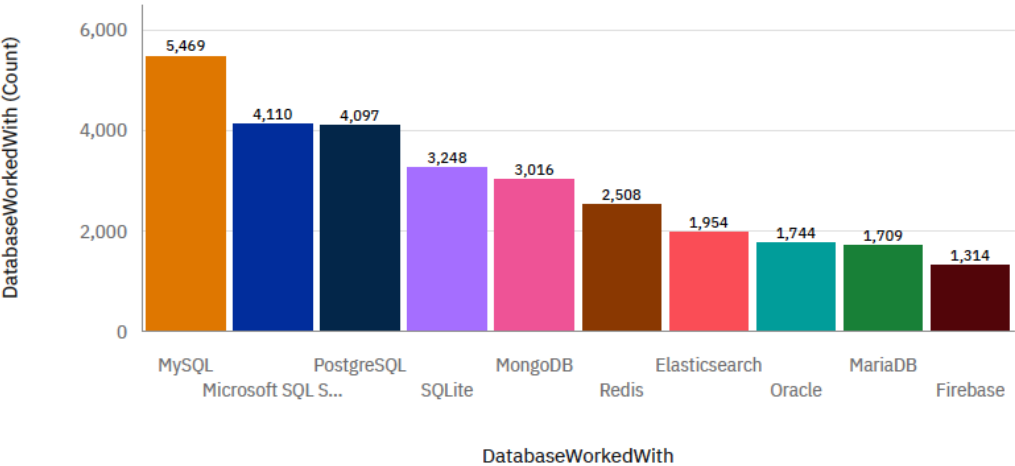
- The widespread use of JavaScript and HTML/CSS highlights their essential role in modern web development, making them crucial skills for developers to master.
- The prevalent use of SQL underscores the importance of data management and querying in today's software applications, both in web and non-web contexts.
- Python's increasing popularity may also point to its versatility and user-friendliness, attracting developers in diverse fields ranging from data science to software development.



# DATABASE TRENDS

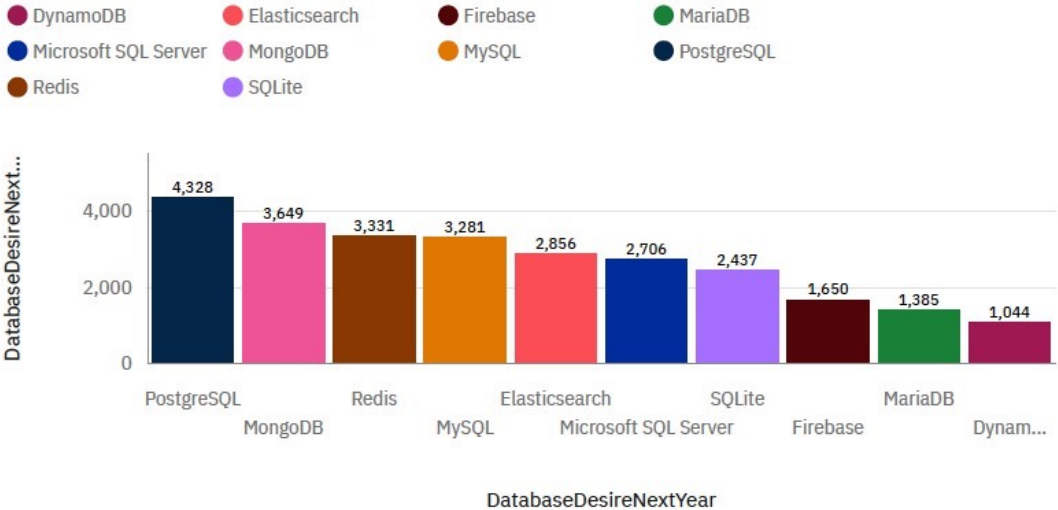
2019

Top 10 Database Worked With



Following Year

Top 10 Database Desire Next Year



# DATABASE TRENDS

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## FINDINGS

- **MySQL** leads as the most used DBMS among all respondents.
- **PostgreSQL** and **Microsoft SQL Server** follow closely behind **MySQL**.
- **MongoDB** ranks as the top **NoSQL** database.

## IMPLICATIONS

- The widespread use of MySQL, PostgreSQL, and Microsoft SQL Server highlights the critical role of relational databases in various applications.
- MongoDB's popularity signifies the increasing shift towards NoSQL databases, driven by the demand for flexible data models and scalability, especially in modern web and mobile applications.
- The variety of database systems used by developers emphasizes the importance of choosing the right tool based on factors such as data structure, scalability, and performance needs.

# DASHBOARD

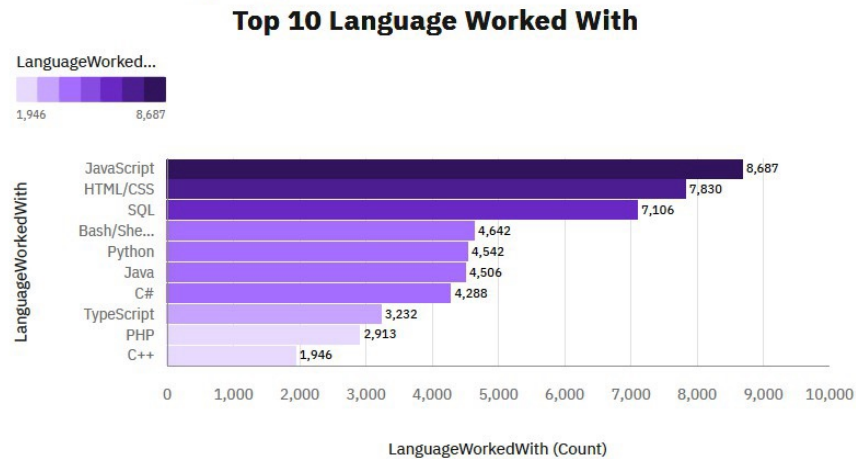
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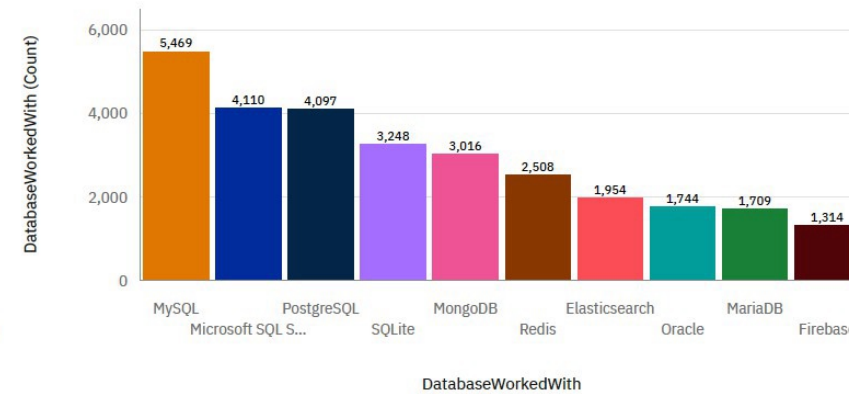
<https://github.com/lrichter1/testrepo.git>

# CURRENT TECHNOLOGY USAGE

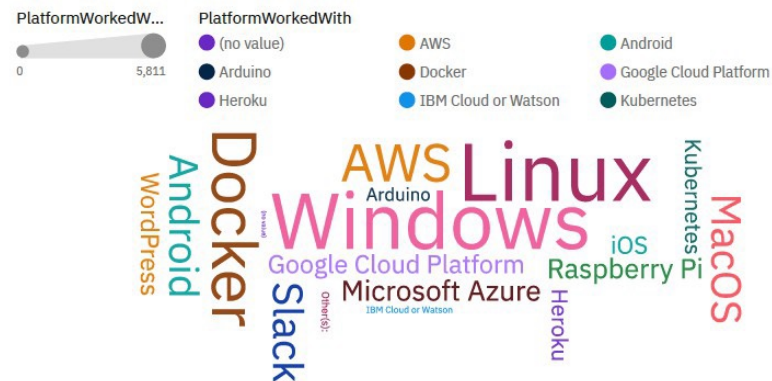
Current Technology Usage



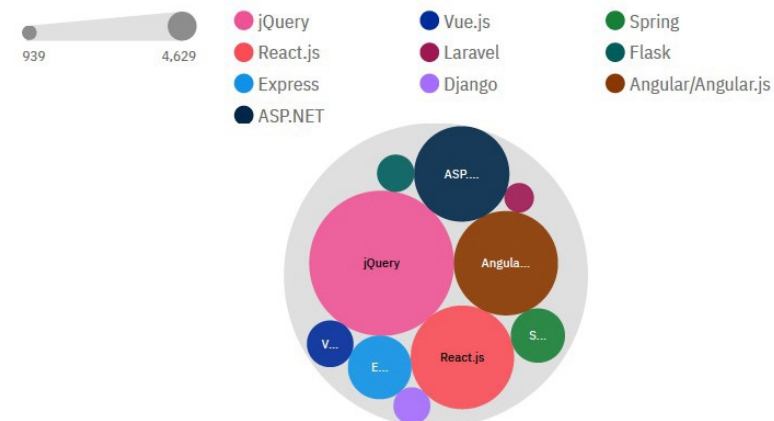
**Top 10 Database Worked With**



**Platform Worked With**

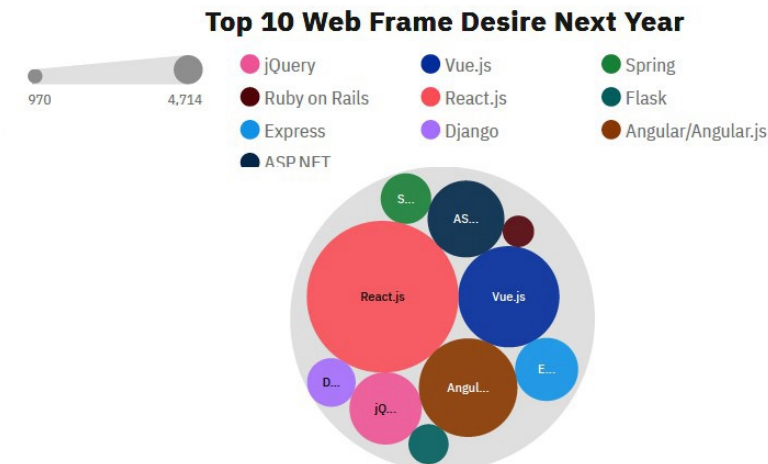
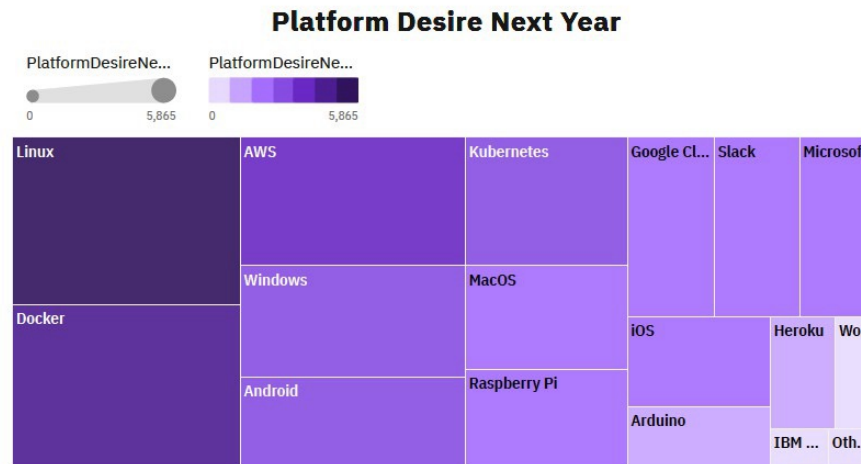
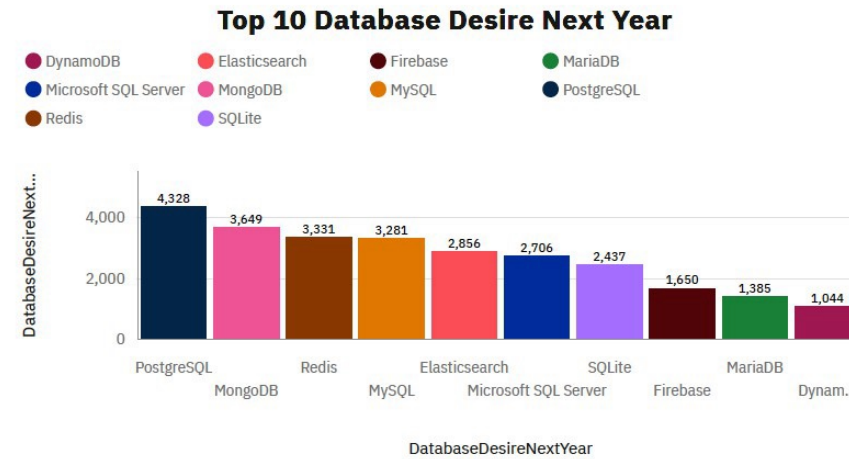
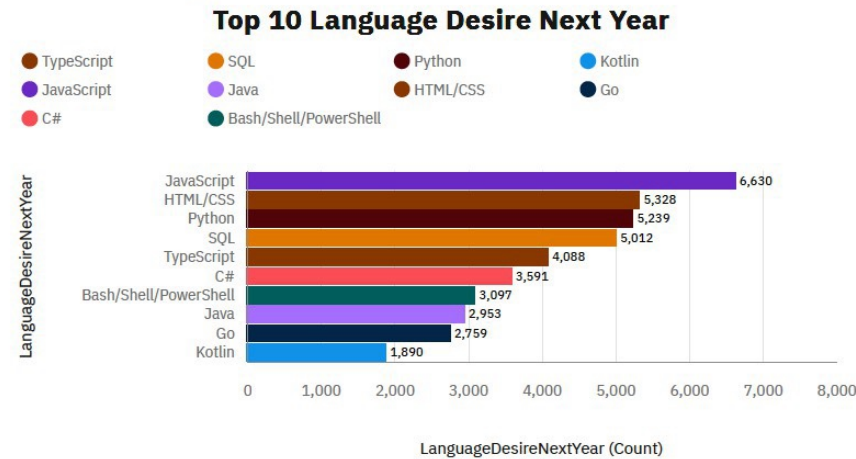


**Top 10 Web Frame Worked With**



# FUTURE TECHNOLOGY TREND

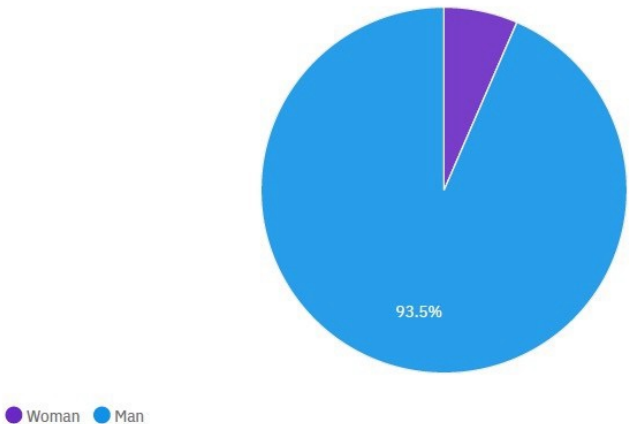
## Future Technology Trend



# DEMOGRAPHICS

## Demographics

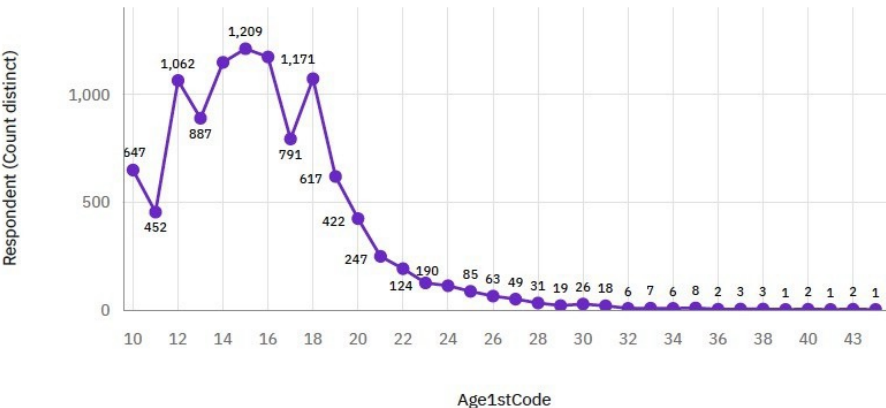
Respondent classified by Gender



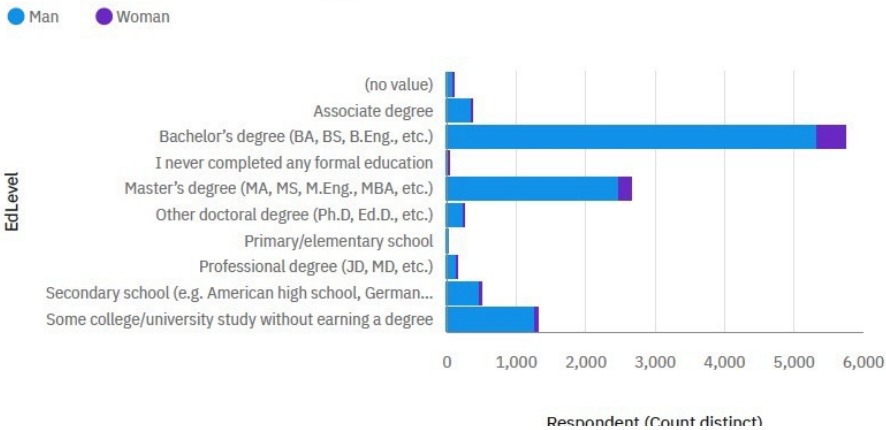
Respondent Count for Countries



Respondent Count by Age



Respondent Count by Gender and Formal Education Level



# DISCUSSION

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- The prominence of JavaScript and HTML/CSS, along with the widespread adoption of MySQL as the leading database management system, underscores the vital role of web development in the programming landscape.
- This invites discussions on the importance of client-side scripting and styling, trends in web development frameworks, and the evolving nature of web technologies.



# CONCLUSION

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- The findings highlight the dynamic nature of the programming landscape and emphasize the crucial role of technology in driving innovation across industries.
- As developers navigate this constantly evolving environment, a strong grasp of various programming languages and database systems is essential to meet the demands of modern applications and ensure successful outcomes in software development projects.



# APPENDIX

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- A- Job Postings Chart
- B- Popular Languages Chart