



TRENDING TECHNOLOGIES

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IBM Developer

SKILLS NETWORK 

OUTLINE



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EXECUTIVE SUMMARY



- **Top programming languages in demand:**
 - Python, JavaScript, HTML/CSS, SQL, C++
- **Top Database skills in demand:**
 - MySQL, SQLite, Microsoft SQL Server
- **Popular platforms:**
 - MySQL, SQLite, Microsoft SQL Server
- **Popular web Frames:**
 - Angular/ Angular JS, React JS, JQuery, Express
- **Future technology trend:**
 - Programming languages : Python, SQL, Typescript
 - DBMS: Redis
 - Frameworks & Libraries: React JS, Vue.JS

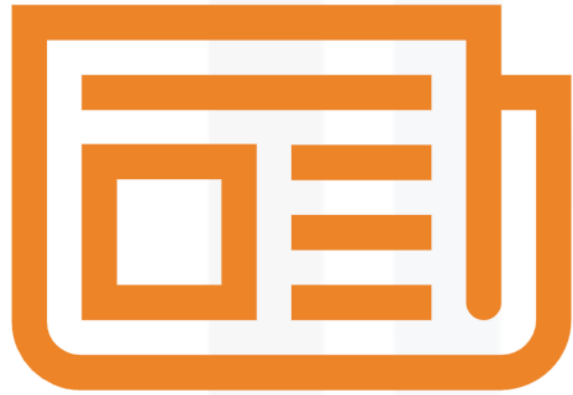
INTRODUCTION



- In the domain of programming and technology, several key trends have emerged
- These insights shed light on the evolving of programming languages, web frameworks and the demographics of professional developers
- **Stack overflow** conducts an inclusive survey of individuals engaged in coding globally
- Covering a wide array of topics from preferred technologies to career aspirations
- Nearly 90000 developers participated in the 20 minute survey in 2019

Let's explore some of the notable findings

METHODOLOGY



- Data is based on the survey conducted by **Stack Overflow** from January 23 to February 14 involved 88883 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, data analysis and data visualization
- Data analysis and visualization was conducted via *IBM Cognos Analytics*

RESULTS



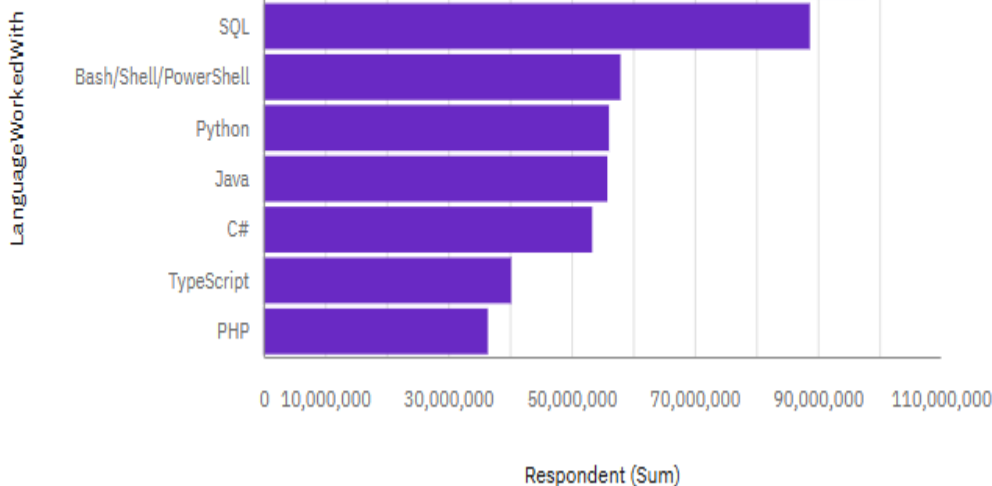
- **Python** overtakes **Java**, becoming the 5th most preferred language with significant growth. It stands as the fastest growing major programming language.
- **JavaScript** remains the most used programming language
- **jQuery** is the most widely used among web frameworks, with **React JS** surpassing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

PROGRAMMING LANGUAGE TRENDS

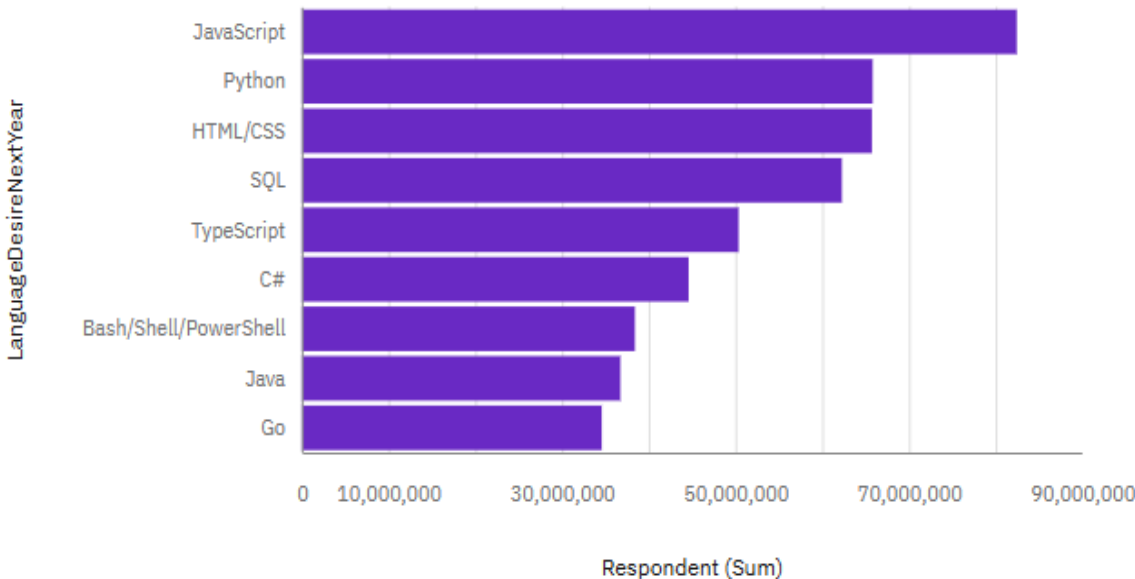
Current Year

Next Year

Respondent by LanguageWorkedWith



Respondent by LanguageDesireNextYear



PROGRAMMING LANGUAGE TRENDS

Findings

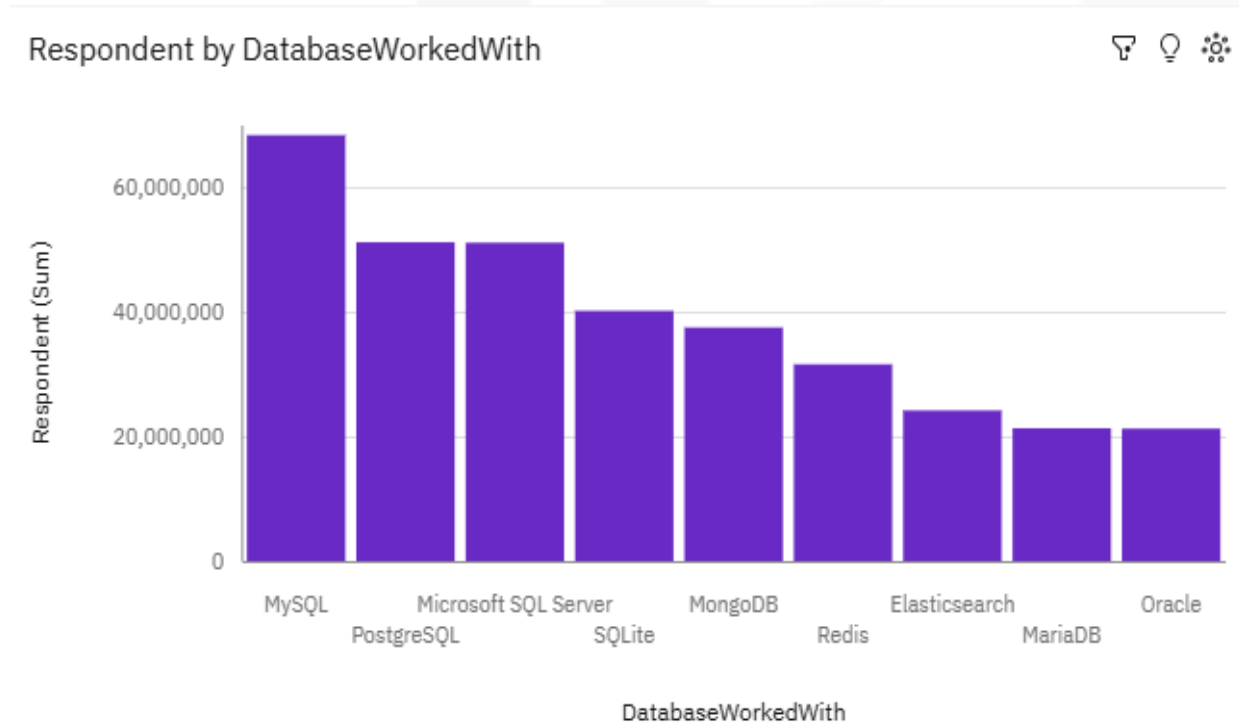
- **JavaScript** and **HTML/CSS** emerge as the most used programming languages among all respondents.
- **SQL** also maintains a significant presence
- **Python** just edged out **Java** in overall ranking

Implications

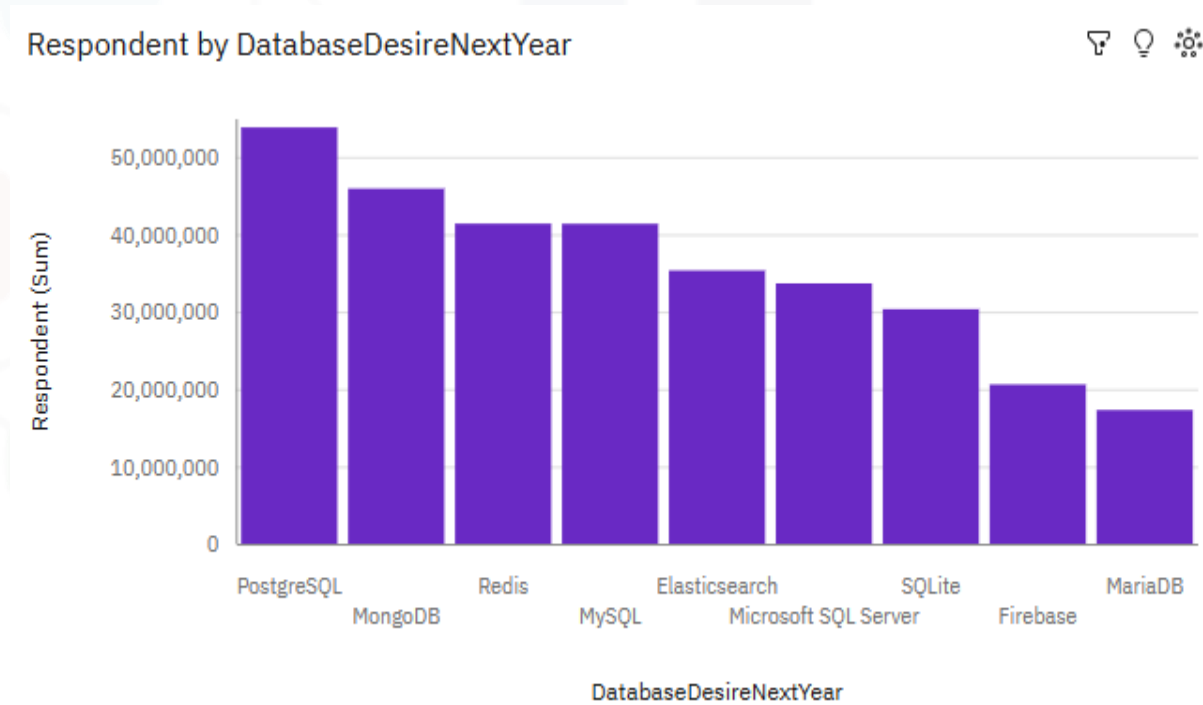
- The dominance of JavaScript and HTML/CSS underscores their indispensability in modern web development, highlighting the importance of mastering them for developers.
- The high usage of SQL emphasizes the critical role of data management and querying in modern software applications
- The rise of Python might reflect its versatility and ease of use, attracting developers across various domains

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS

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 popularity of **MySQL Server**, **PostgreSQL**, and **Microsoft SQL Server** underscores the importance of Relational databases in various application.
- The high usage of **MongoDB** reflects the growing trend towards **NoSQL** databases, driven by the need for flexible data models and scalability
- The diverse range of database systems utilized by developers indicates the importance of selecting the right tool for job

DASHBOARD with *IBM Cognos Analytics*



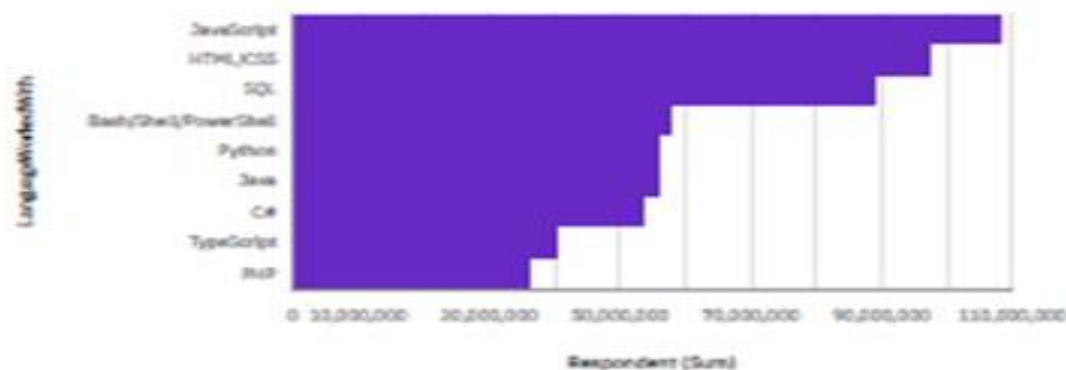
You can find the dashboard link below:

https://github.com/TheIija2024/Final_Project_AnalyzingData_and_Dashboard_with_IBM_Cognos_Analytics/blob/main/dashboards.pdf

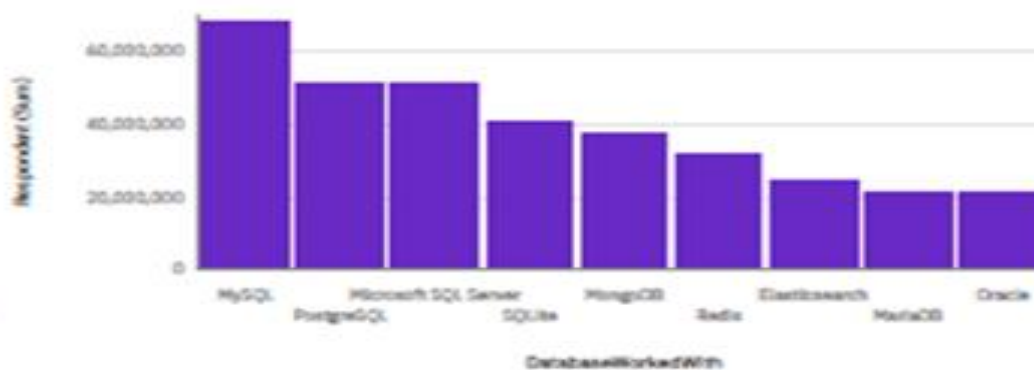
CURRENT TECHNOLOGY USAGE

Current Technology usage

Respondent by LanguageWorkedWith



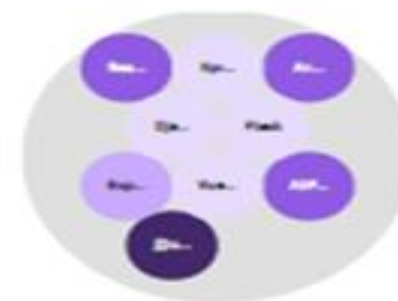
Respondent by DatabaseWorkedWith



LanguageWorkedWith colored by PlatformWorkedWith



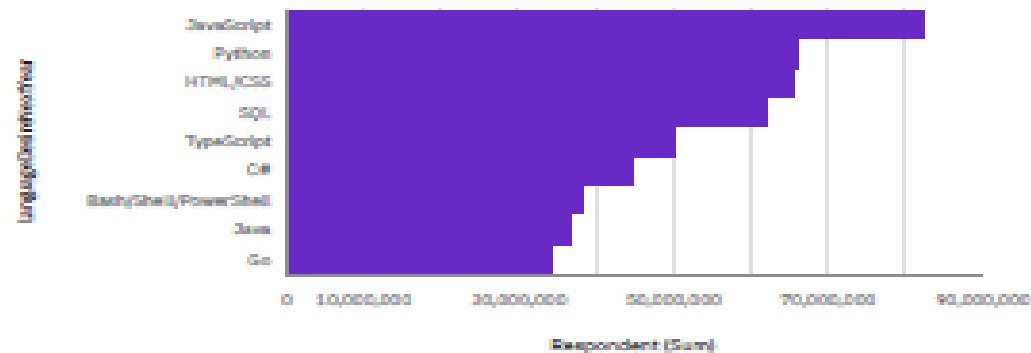
WebFrameWorkedWith hierarchy colored by Respondent



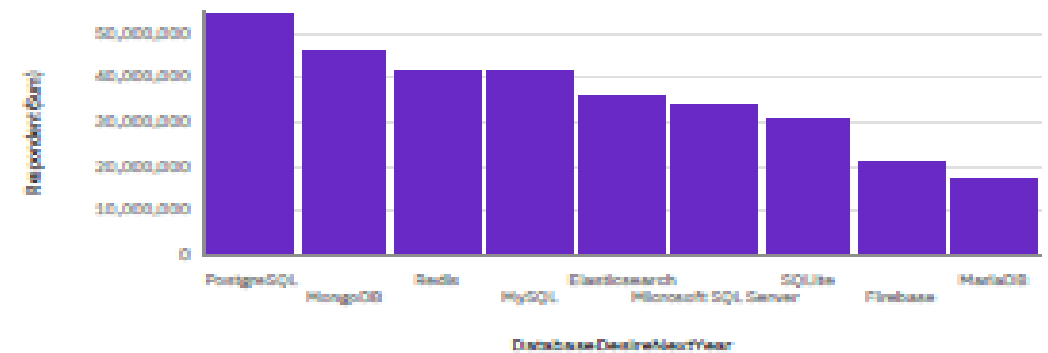
FUTURE TECHNOLOGY TREND

Future Technology Trend

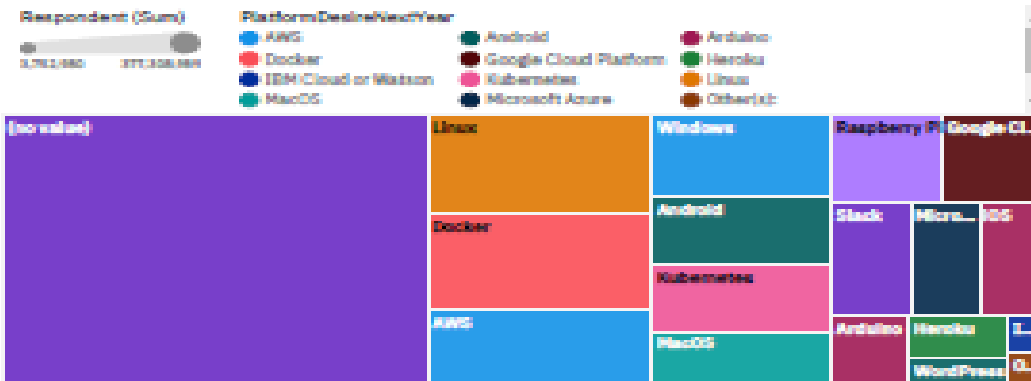
Respondent by LanguageDesireNextYear



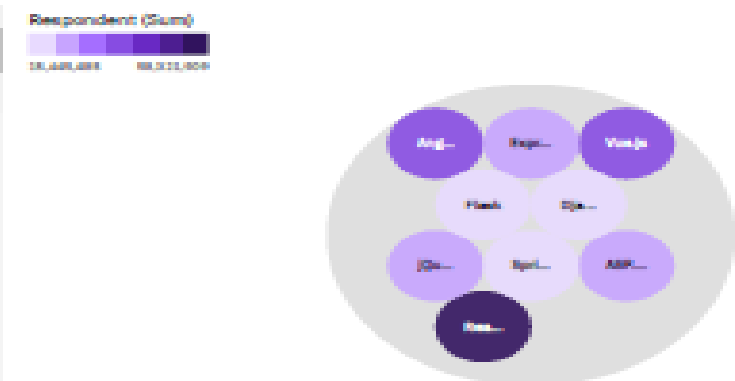
Respondent by DatabaseDesireNextYear



Respondent for PlatformDesireNextYear hierarchy



WebFrameDesireNextYear hierarchy colored by Respondent

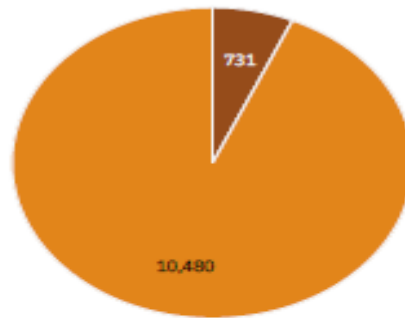


DEMOGRAPHICS

Demographics

Respondent by Gender

Gender
● Woman ● Man

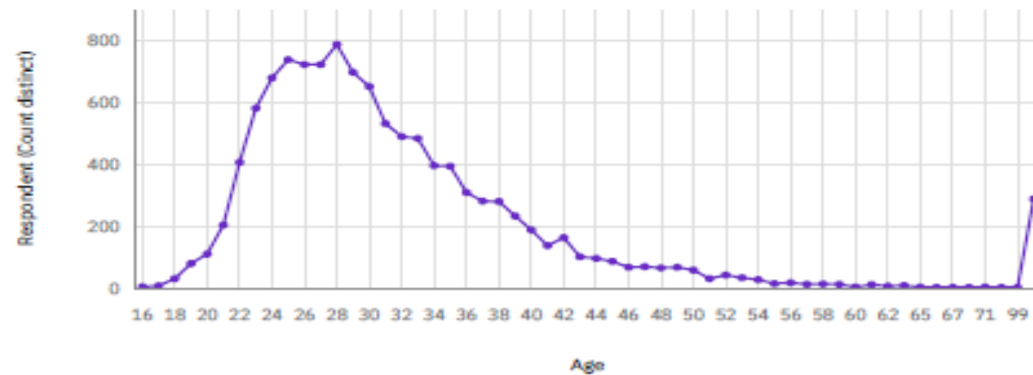


Respondent for Country regions

Respondent (Count)
1 3,127

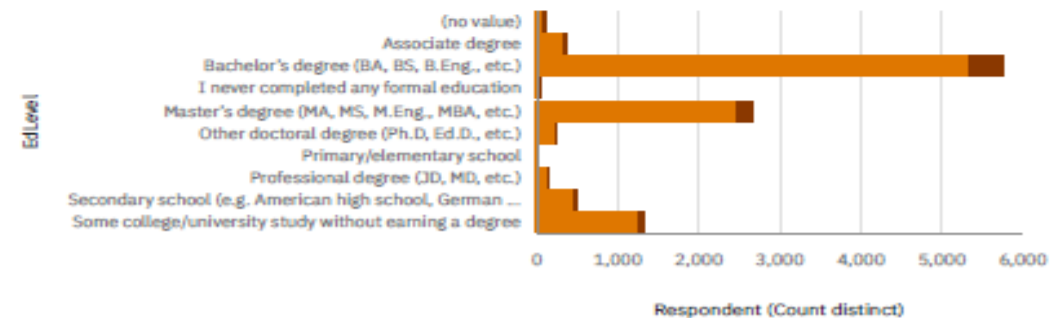


Respondent by Age



Respondent by EdLevel colored by Gender

Gender
● Man ● Woman



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**

CONCLUDING REMARKS

Findings

- **Technology Trends:** the dominance of JavaScript and HTML/CSS underscores the importance of staying updated with technology trends in web development.
- **Data management:** the prevalence of MySQL, PostgreSQL and Microsoft SQL Server highlights the critical role of effective data management in software development
- **Diversity of tools:** the diverse range of programming languages and database systems utilized by developers underscores the importance of understanding the strengths and weaknesses of different tools

Implications

- **web dominance:** the widespread usage of JavaScript and HTML/CSS indicates the dominance of web development in the programming ecosystem, reflecting the growing importance of online platforms and digital experiences.
- **Database diversity:** the variety of database management systems used highlights the importance of flexibility and adaptability in the data storage solutions. Organizations must consider factors such as data structure and performance when selecting DB systems.
- **Industry standardization:** the popularity of certain technologies like JavaScript and MySQL suggests a degree of industry standardization

CONCLUSION



- The findings underscore the dynamic nature of the programming field and the important role of technology in driving innovation across industries.
- As developers navigate this ever-changing field,
- A keen understanding of diverse programming languages
- Database systems becomes essential to meet the demands of modern applications
- Ensure optimal outcomes in software development projects.

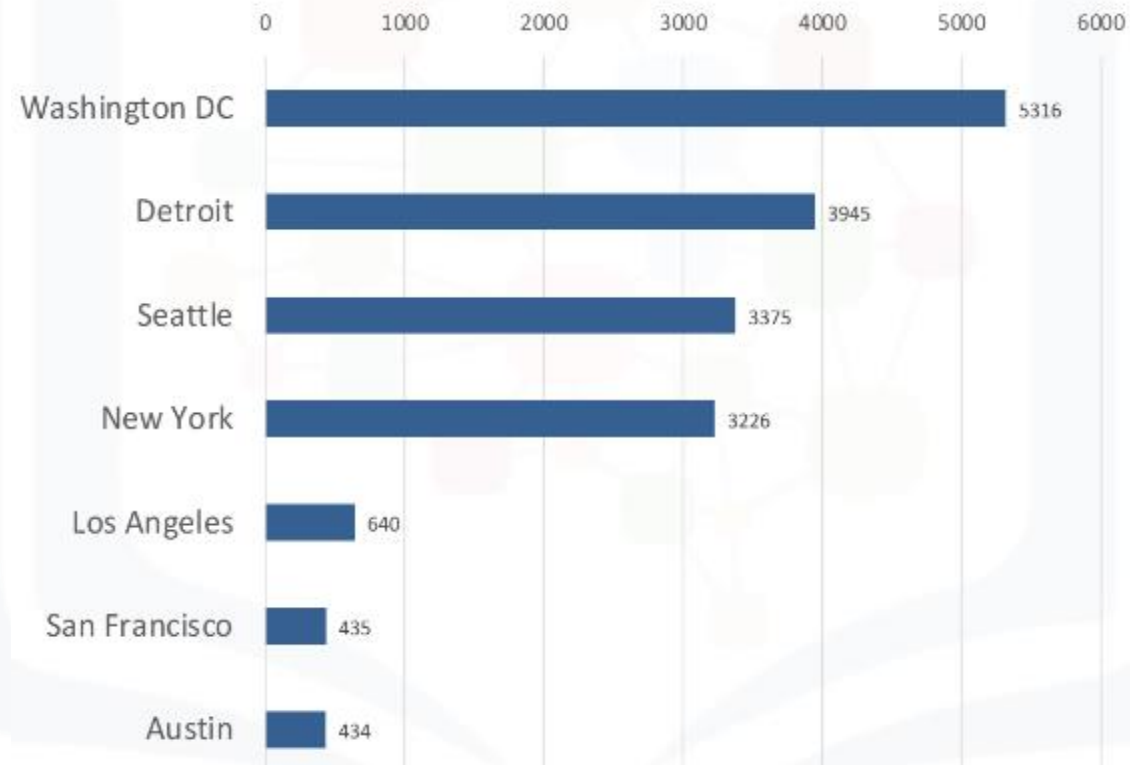
APPENDIX



A- Job Postings chart

B- Popular Languages chart

JOB POSTINGS



POPULAR LANGUAGES

