TRENDING TECHNOLOGIES: 2019 Survey For Developers

Dinnghel Haile Tesfagiorges

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EXECUTIVE SUMMARY

❖ **Top programming languages in demand:**

- JavaScript, HTML/CSS, SQL, Bash/Shell/PowerShell, Python

❖ **Top database skills in demand:**

- 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

❖In the programming and technology spectrum, there are several important trends have surfaced in recent years:

❖These trends have offer significant insights into the everchanging landscape of programming languages, web frameworks, and the demographics of professional developers.

❖There was a detailed and comprehensive survey conducted by **Stack Overflow** that included individuals involved in coding from around the globe.

❖The survey covered a broad range of topics, from preferred technologies to career goals, with the 2019 edition marking the 9th consecutive year of its release.

❖In 2019, nearly 90,000 developers took part in the 20-minute survey.

❖Let's dive into some of the key findings.

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METHODOLOGY

❖ The information stands on the study held by **Stack Overflow** from last year, January 23 till February 14, which had **88,883 software developers** out of **179 countries**.

❖ Knowledge about this dataset was provided through the completion of lab courses at IBM on Coursera, covering topics including but not limited to Web Scraping, Exploratory Data Analysis (EDA), Data Wrangling programming languages, and the different visualization methods.

❖ IBM Cognos Analytics provided an environment for data analysis and graphical representation as the method of choice.

RESULTS

❖ **Python** is now ranked as the 5th most popular language with impressive development overtaking **Java**. Furthermore, it is regarded as the leading programming language amongst programmers.

❖ **JavaScript** remains the most commonly used computer programming language.

❖ **jQuery** continues to lead among web frameworks while **React.js** has taken over **Angular** in terms of developer usage this year.

❖ On a global scale, male respondents account for about **90%** of total responses, whereas regions like US, India and UK have more women among students as compared to working developers.

❖ As before, three quarters of global software engineers hold at least a **bachelor's degree**.

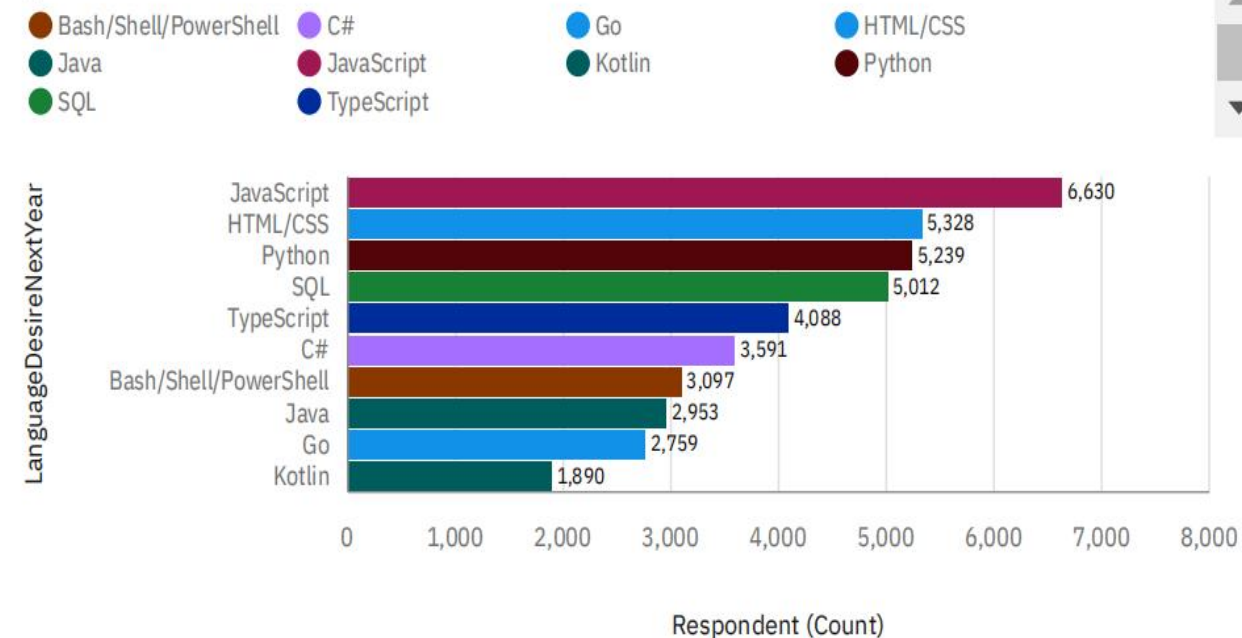❖ In addition, three-quarters of respondents in professional developer roles are below **35 years old**.

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PROGRAMMING LANGUAGE TRENDS

2019
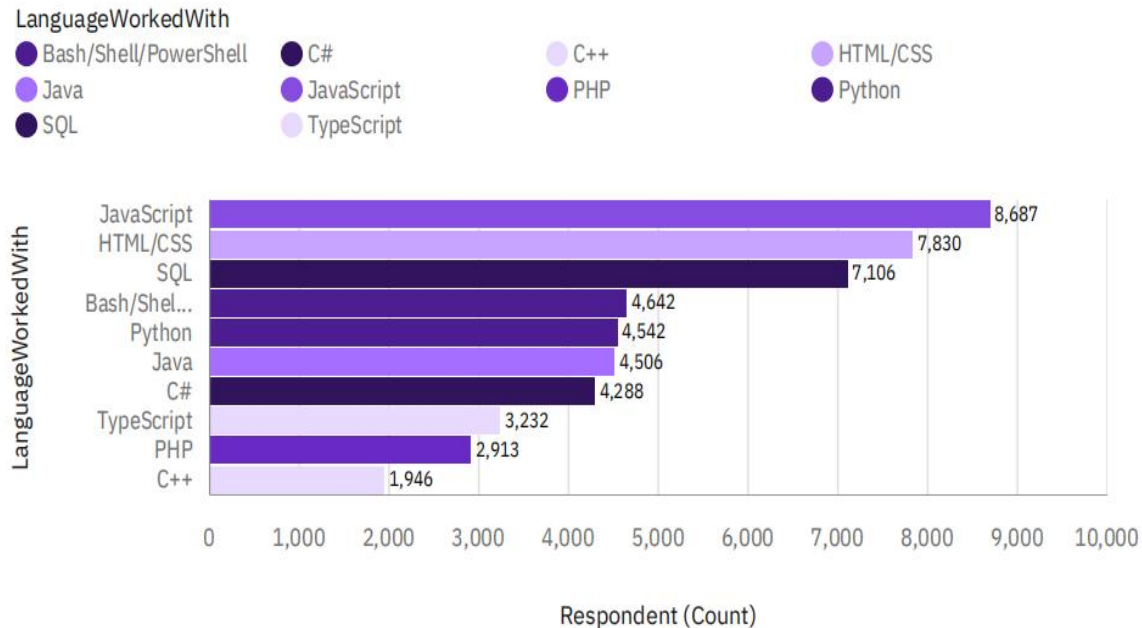
Following Year

PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- The programming languages most used by respondents include **JavaScript** and **HTML/CSS**.
- Additionally, there is still a considerable presence of **SQL**.
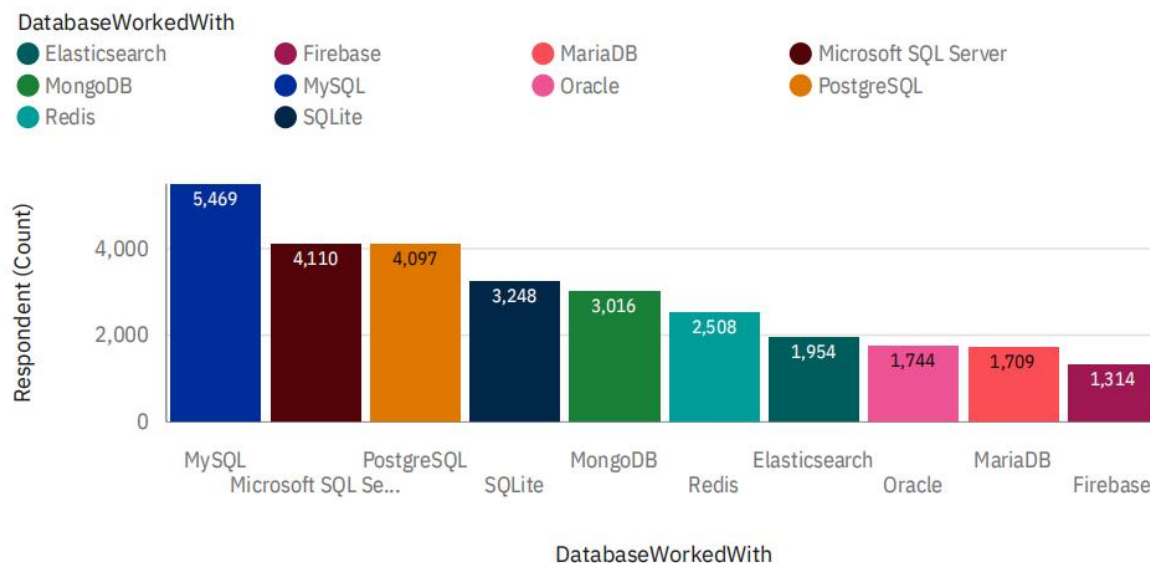- While **Python** has slightly surpassed **Java** in overall ranking.

Implications

- This brings us back to the question of whether these two languages (**HTML/CSS** & **JavaScript**)are essential for any web developer today.
- By doing so, they shape the future of many applications not only online but within other software realms where data storage and querying is fundamental, thus the need for **SQL**.
- Finally, **Python**'s popularity may stem from its flexibility and user-friendliness appealing to developers from different fields including data science and software engineering.
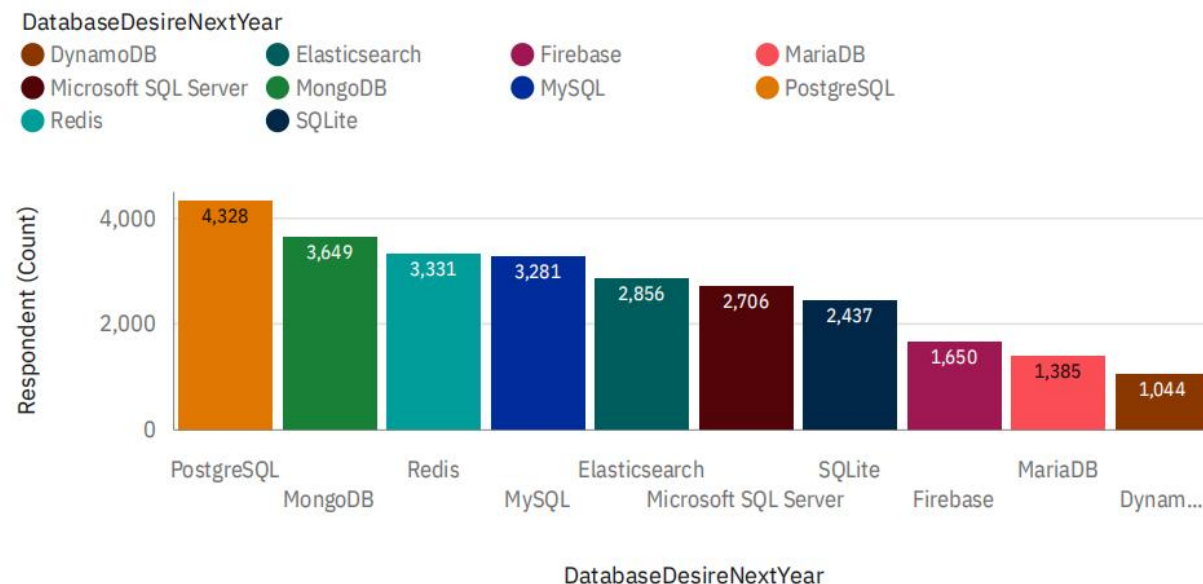
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DATABASE TRENDS

2019

Following Year

DATABASE TRENDS – FINDINGS & IMPLICATIONS

Findings

- According to all respondents, **MySQL** is the most used database management system (DBMS).

- **PostgreSQL** and **Microsoft SQL Server** closely follow **MySQL**.

- **MongoDB** is the number one **NoSQL** database.

Implications

- The dominance of MySQL, PostgreSQL, and Microsoft SQL Server highlights how important relational databases are for different types of applications.

- The frequent use of MongoDB shows that in recent years there has been a switch towards NoSQL databases that provide more flexible data models while allowing greater scalability especially in today's online and mobile applications.

- Database systems which vary in type are what developers employ to reinforce the significance of employing the perfect instrument for good decision making based on metrics like data design, scaling optionsand performance stipulations.
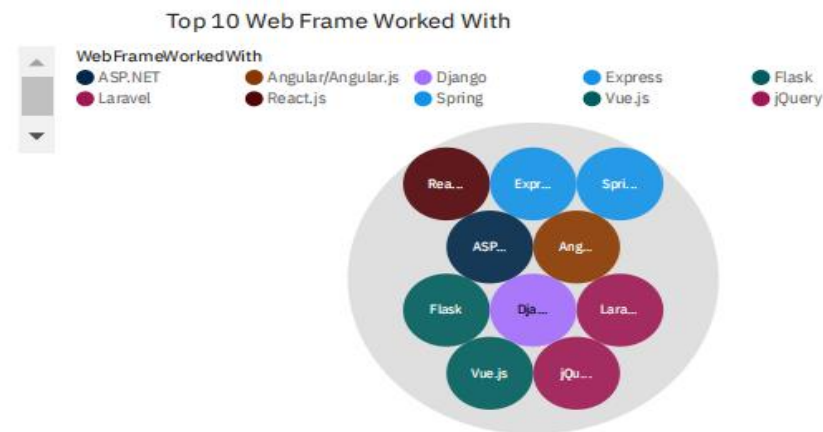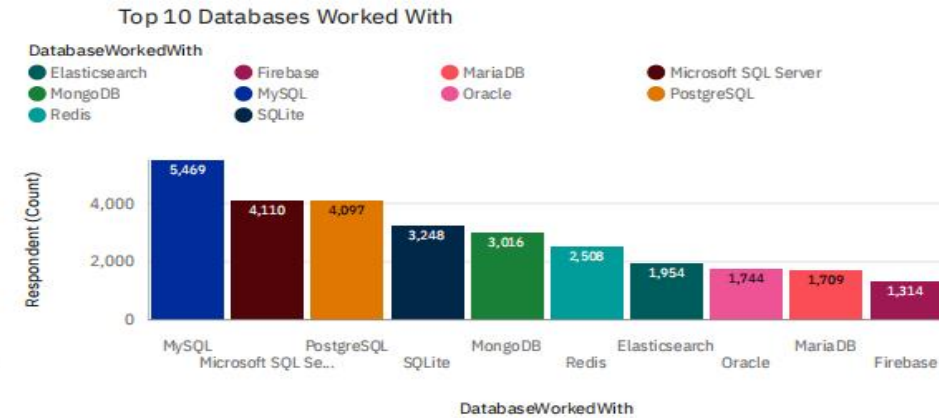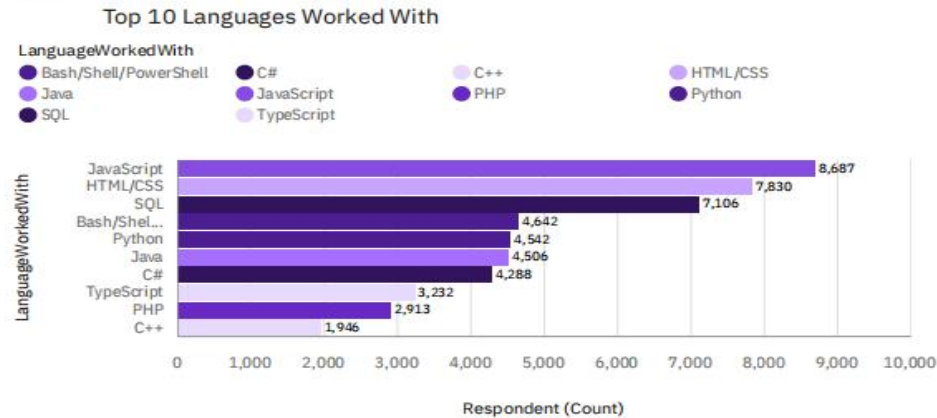
DASHBOARD

https://github.com/dinnghelhaile/Capstone-Project/blob/a5b4d29cc2650ea55faed710277956a72e737111/CAPSTONE%20PROJECT%20DASHBOARD.pdf
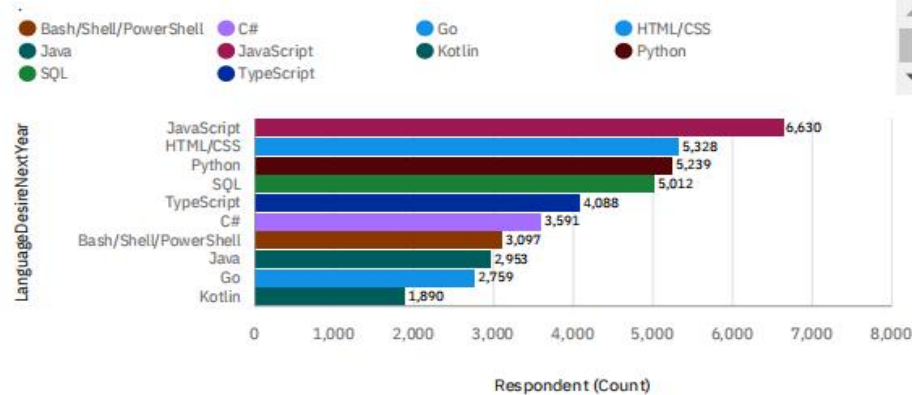
CURRENT TECHNOLOGY USAGE
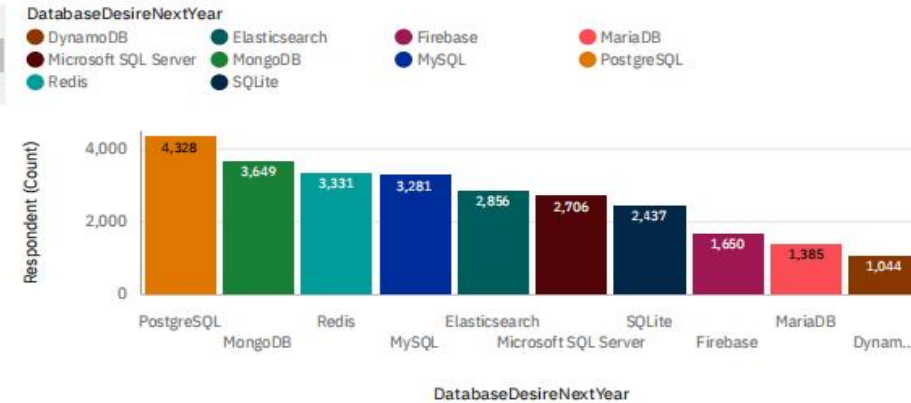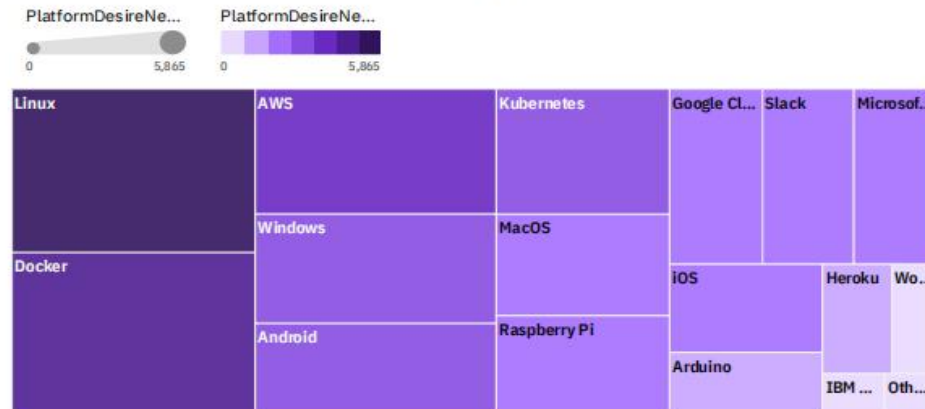
FUTURE TECHNOLOGY TRENDS

Future Technology Trend

Top 10 Languages Desire Next Year

Legend: Bash/Shell/PowerShell, C#, Go, HTML/CSS, Java, JavaScript, Kotlin, Python, SQL, TypeScript

LanguageDesireNextYear	Respondent (Count)
JavaScript	6,630
HTML/CSS	5,328
Python	5,239
SQL	5,012
TypeScript	4,088
C#	3,591
Bash/Shell/PowerShell	3,097
Java	2,953
Go	2,759
Kotlin	1,890

Top 10 Database Desire Next Year

DatabaseDesireNextYear — DynamoDB, Elasticsearch, Firebase, MariaDB, Microsoft SQL Server, MongoDB, MySQL, PostgreSQL, Redis, SQLite

DatabaseDesireNextYear	Respondent (Count)
PostgreSQL	4,328
MongoDB	3,649
Redis	3,331
MySQL	3,281
Elasticsearch	2,856
Microsoft SQL Server	2,706
SQLite	2,437
Firebase	1,650
MariaDB	1,385
Dynam...	1,044

Platform Desire Next Year

PlatformDesireNe... 0 – 5,865

Linux, Docker, AWS, Windows, Android, Kubernetes, MacOS, Raspberry Pi, Google Cl..., Slack, iOS, Arduino, Microsof..., Heroku, Wo..., IBM ..., Oth...

Top 10 Web Frame Desire Next Year
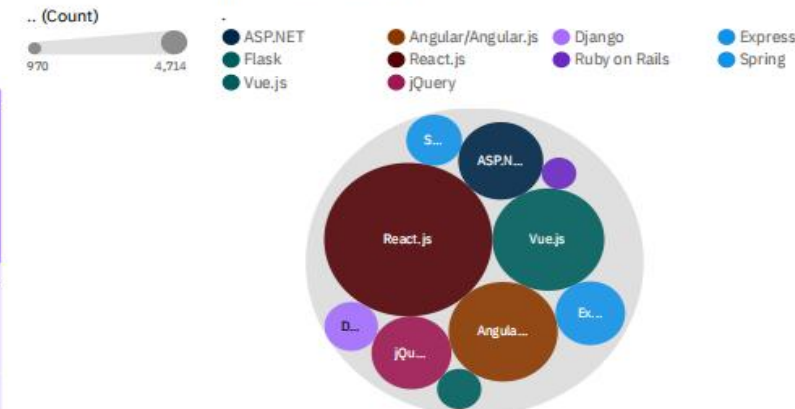
.. (Count) 970 – 4,714

Legend: ASP.NET, Angular/Angular.js, Django, Express, Flask, React.js, Ruby on Rails, Spring, Vue.js, jQuery

S..., ASP.N..., React.js, Vue.js, D..., jQu..., Angula..., Ex...

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DEMOGRAPHICS
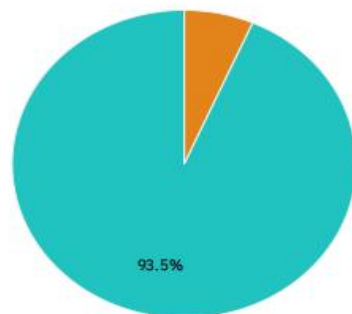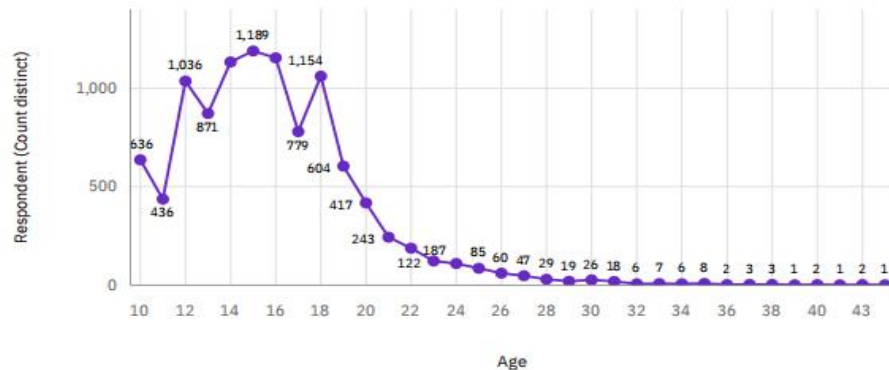
DISCUSSION

- **JavaScript** is dominant and so are **HTML/CSS** while **MySQL** as a DBMS evolves around them; therefore these are some points underlining their importance.

- Centrality of **web development** to programming environment.

- Need for a **client-side scripting** and **styling**, trends in web development frameworks, novel characteristics of **web technologies**.

OVERALL FINDINGS & IMPLICATIONS

Findings

- **Technology Trends:** JavaScript and HTML/CSS remain key players in the evolution of site making.

- **Data Management:** The rising use of MySQL, PostgreSQL and Microsoft SQL Server shows that effective data handling is very important for software development.

- **Variety of Tools:** A plethora of programming languages with different databases shows how important it is for developers to comprehend the advantages and disadvantages presented by different tools.

Implications

- **Web Dominance:** The widespread usage of JavaScript and HTML/CSS indicates the dominance of web development in the programming ecosystem, reflecting increasing priority accorded to online platforms and digital experiences.

- **Database Diversity:** The diversity in database management systems used indicates the need for flexible and adaptable data storage solutions. Organizations must factor in elements like structure of data, scalability and performance when selecting a database system.

- **Industry Standardization:** The prevalence of certain technologies such as JavaScript and MySQL suggest there is a certain degree of industry standardization where some tools tend to be popular because they are tried-and-tested for their responsiveness and appropriateness. It simplifies cooperation among developers as well as compatibility across platforms.

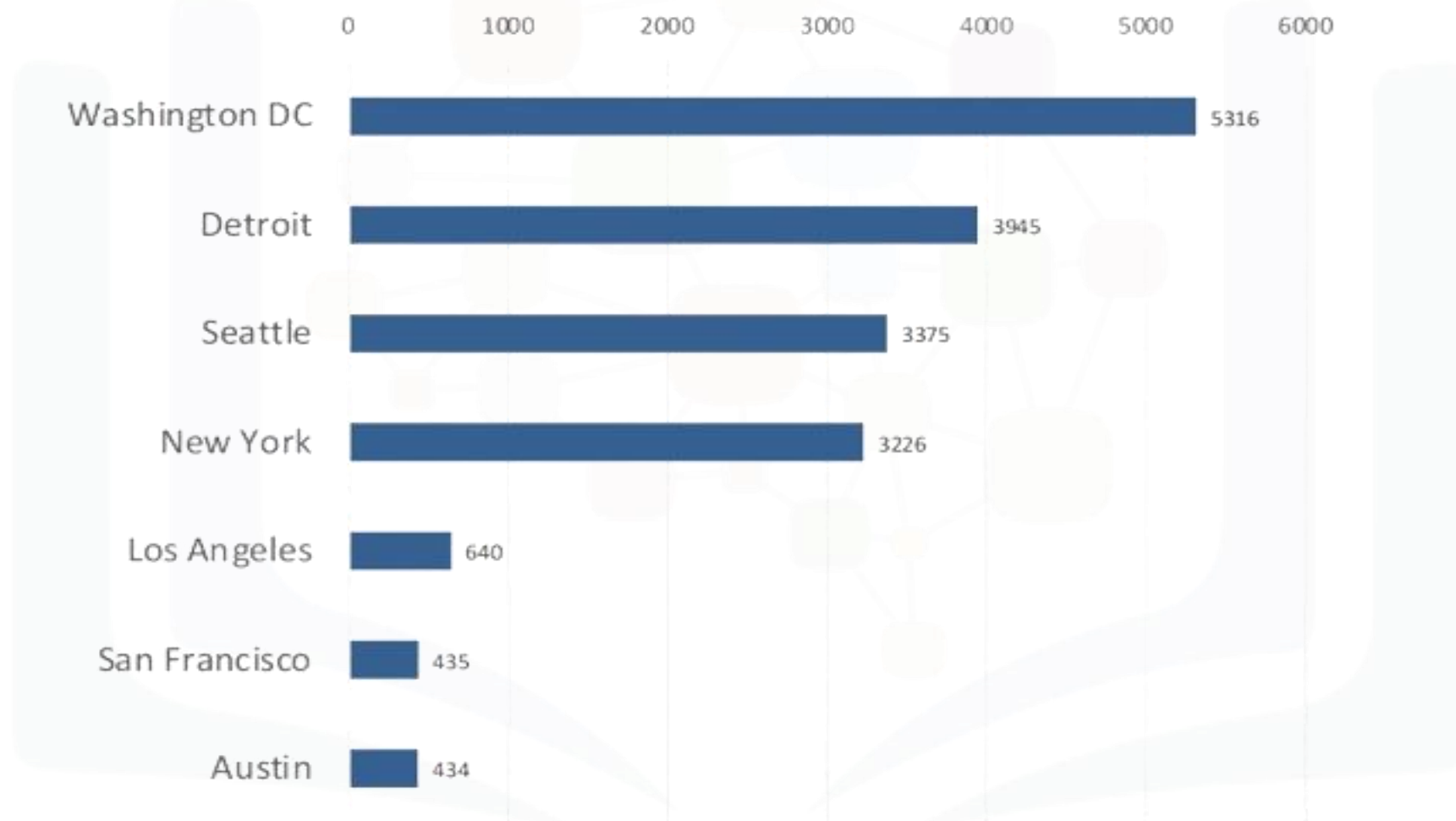IBM **Developer**

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CONCLUSION

- The results highlight how the programming space is ever-changing and that technology plays a key role in innovation throughout different areas.

- When developers explore this constantly shifting field, there is a list of observations such as:

I.   strong comprehension of various programming languages

II.   database systems turns into one of modern applications

III. guaranteeing best results during software development projects.

APPENDIX

- There are two additional charts created that are neccessary for this presentation which are:

I.   Job Postings Chart

II.   Popular languages Chart

JOB POSTINGS

POPULAR LANGUAGES