

Emerging Skills Report: Insights and Trends in Programming Languages, Databases, Platforms, and Web Frameworks

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OUTLINE

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 - ▶ Visualization – Charts
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- ▶ Discussion
 - ▶ Findings & Implications
- ▶ Conclusion
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EXECUTIVE SUMMARY

- ▶ The purpose of this report is to provide insights and trends in the field of IT, specifically focusing on the most in-demand programming languages, databases, platforms, and web frameworks.
- ▶ The data was collected from various sources such as job postings, and surveys.
- ▶ The data analysis showed that the top 5 programming languages in demand are JavaScript, HTML/CSS, Python, SQL, and Typescript. The leading 5 databases in demand are PostgreSQL, mongo DB, Redis, MySQL, and Elasticsearch. The top 5 platforms in demand are Linux, Docker, AWS, windows, and Android.
- ▶ These findings have implications for IT professionals and organizations, as they can use this information to upskill themselves and to make informed decisions about the technologies they choose to invest in.



INTRODUCTION

This report provides an in-depth analysis of the emerging skills in the IT industry. It highlights the most in-demand programming languages, databases, platforms, and web frameworks, based on data collected from various sources such as job postings, and surveys.

This report is intended for IT professionals and organizations who are interested in staying up-to-date with the latest technological advancements and identifying the skills that are in demand in the industry.

By reading through this report, the reader will gain a comprehensive understanding of the current trends and patterns in the IT industry and will be able to make informed decisions about their personal and professional development. The report provides valuable insights and recommendations for individuals and organizations looking to upskill and remain competitive in the fast-paced and ever-changing world of technology.



METHODOLOGY

The technology trend is studied by comparing the current and future technology usage. The data was from 'The 2019 Stack Overflow Developer Survey'.

Process:

- ▶ Data Collection
- ▶ Data Wrangling
- ▶ Exploratory Data Analysis
- ▶ Data Visualization
- ▶ Dashboard Creation



RESULTS

From the result, analysis shows that the top 5 programming languages in demand are:

- ▶ JavaScript
- ▶ HTML/CSS
- ▶ Python
- ▶ SQL
- ▶ Typescript

The results consists of 4 main parts:

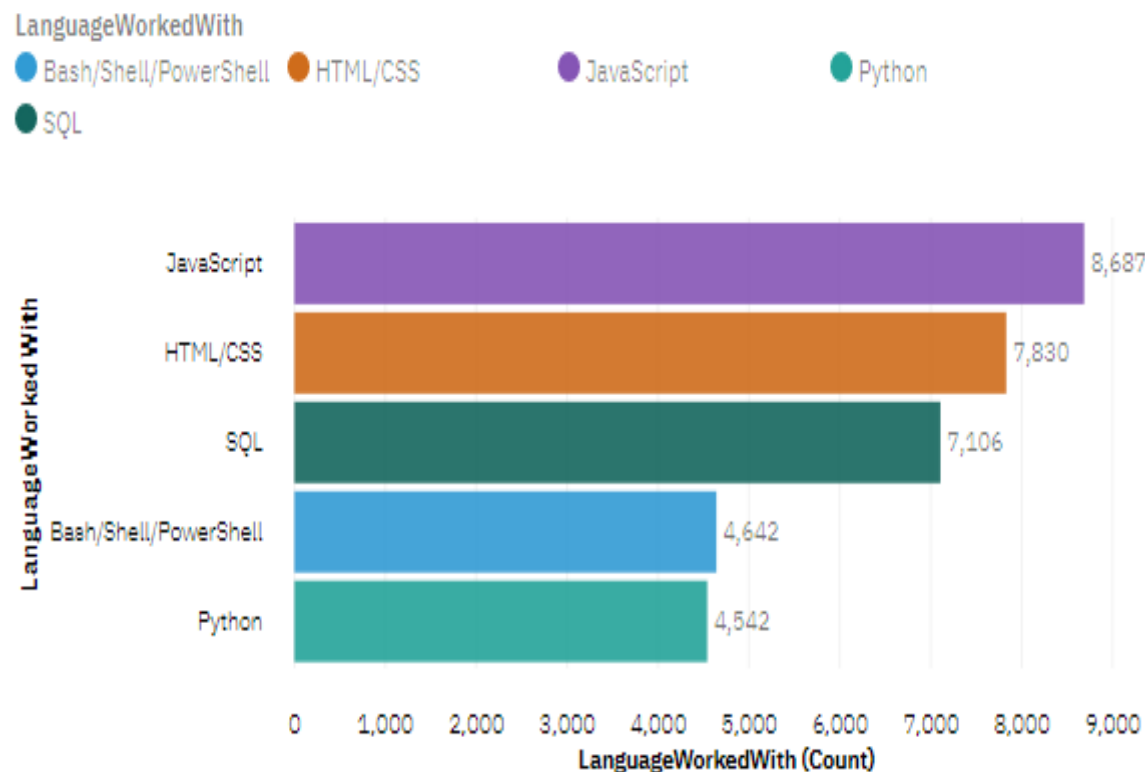
- ▶ Programming language trend
- ▶ Database trend
- ▶ Platform trend
- ▶ Web frame trend



PROGRAMMING LANGUAGE TRENDS

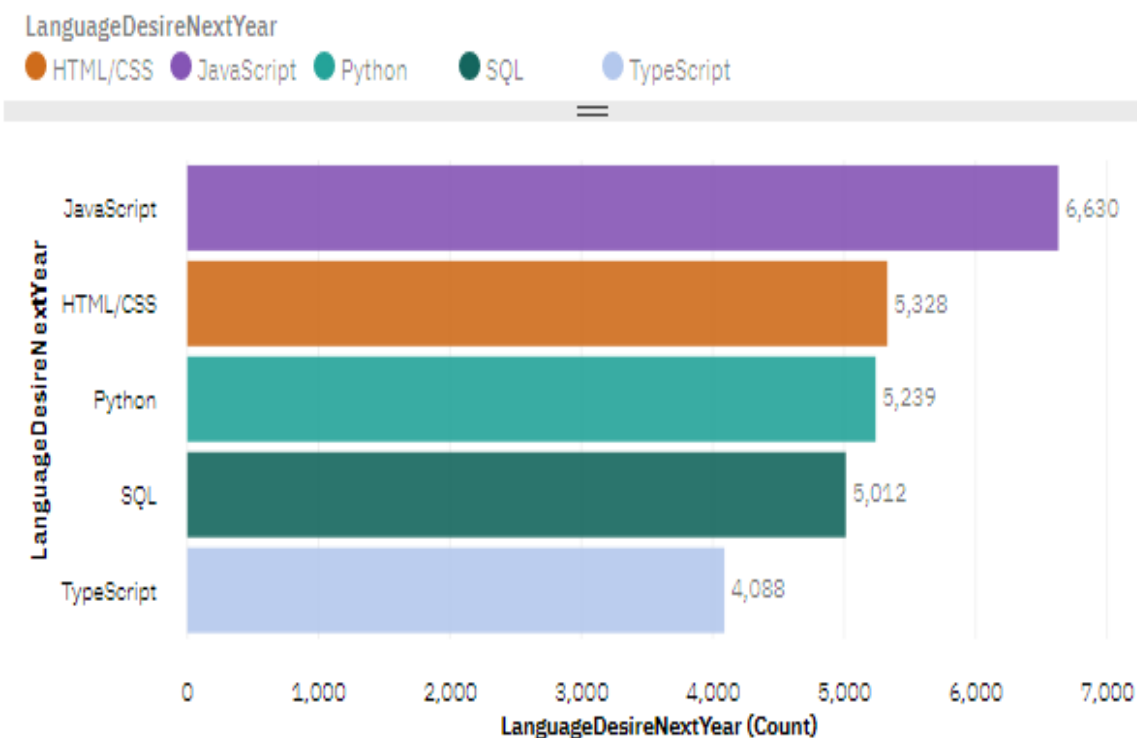
Current Year

Top 5 Language Worked With



Next Year

Top 5 Languages Desired Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- ▶ JavaScript is widely used for developing interactive front-end web applications and is in high demand in the industry.
- ▶ HTML/CSS are the basic building blocks of websites and are still in high demand, indicating that web development is a popular area of expertise.
- ▶ Python is a general-purpose programming language that is widely used in a variety of applications, from web development to data science, and is in high demand, indicating its versatility and popularity
- ▶ SQL is a widely used language for managing relational databases and is in high demand, indicating the importance of database management in the industry.

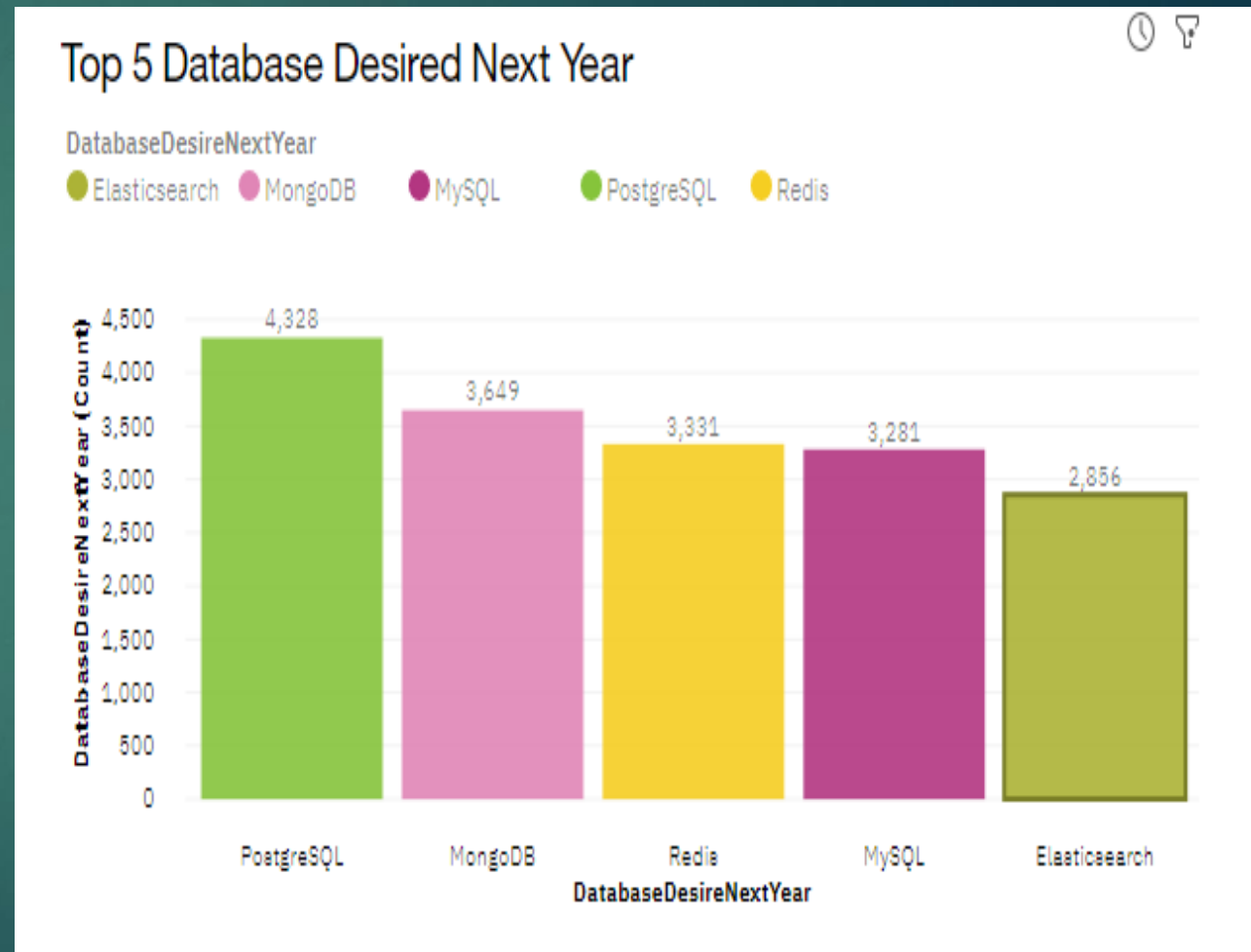
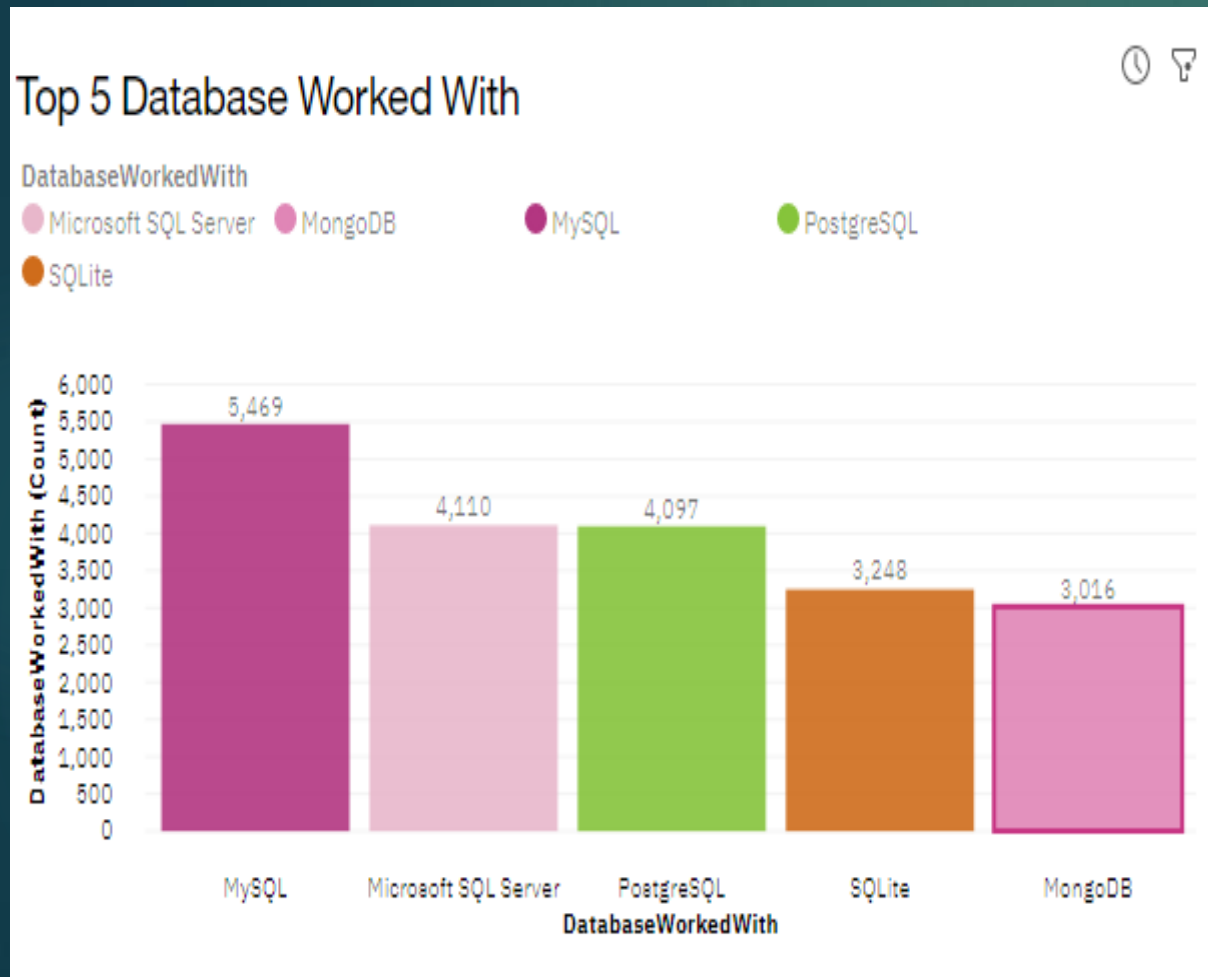
Implications

- ▶ The results can help the organization identify the skills they need to invest in to remain competitive in the market and meet the current and future demands of the industry
- ▶ The results can help individuals understand the popular programming skills that are currently in demand and guide them in their career development and skill acquisition
- ▶ For the industry: The results can provide a snapshot of the current demand for programming skills and help stakeholders in the industry understand the trends and make informed decisions about their investments in technology and human resource

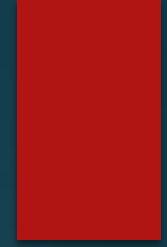
DATABASE TRENDS

Current Year

Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS



Finding

- ▶ PostgreSQL is an open-source relational database management system and is in high demand, indicating the popularity of open-source solutions and the need for advanced data management capabilities.
- ▶ MongoDB is a NoSQL database that is widely used for developing scalable and flexible web applications and is in high demand, indicating the growth of the web development industry and the need for flexible data storage solutions.
- ▶ Redis is an in-memory data structure store that is widely used for caching, real-time analytics, and message brokering and is in high demand, indicating the need for fast and efficient data processing solutions.

Implications

- ▶ The results can help the organization identify the databases they need to invest in to remain competitive in the market and meet the current and future demands of the industry.
- ▶ Individuals can use the results to identify areas they need to improve their skills in and make informed decisions about their future training
- ▶ The results can also help the industry predict future technology requirements and identify emerging databases that may gain popularity in the future

DASHBOARD



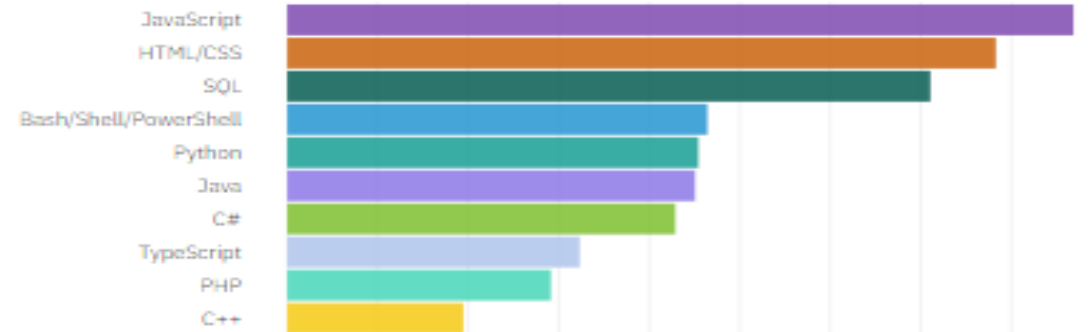
Click [here](#) to view the stack overflow
developer survey dashboard

DASHBOARD TAB 1

Top 10 Language Worked With

LanguageWorkedWith

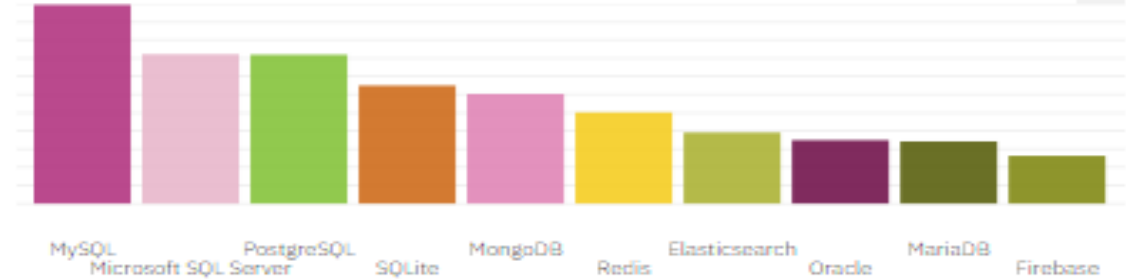
● Bash/Shell/PowerShell ● C#



Top 10 Database Worked With

DatabaseWorkedWith

● Elasticsearch ● Firebase
● MariaDB ● Microsoft SQL Server



Platform Worked With

PlatformWorked...

PlatformWorkedWith



Top 10 WebFrame Worked With

WebFrameWorke...

WebFrameWorkedWith

● ASP.NET ● Angular/Angular.js
● Django ● Express

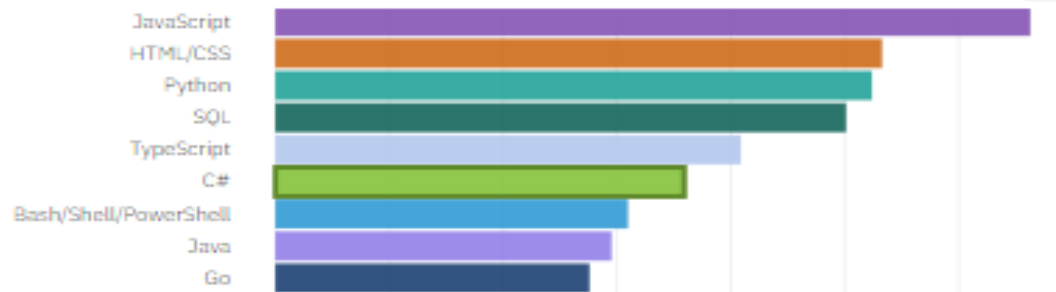


DASHBOARD TAB 2

Top 10 Languages Desired Next Year

LanguageDesireNextYear

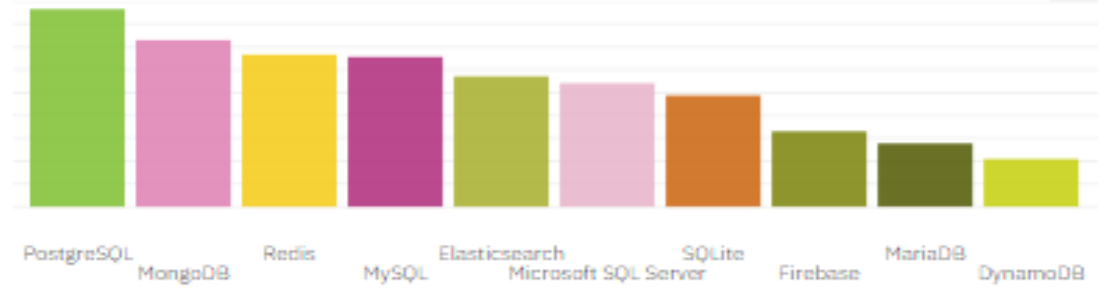
- Bash/Shell/PowerShell
- C#
- Go
- HTML/CSS



Top 10 Database Desired Next Year

DatabaseDesireNextYear

- DynamoDB
- Elasticsearch
- Firebase
- MariaDB



Platform Desired Next Year.

PlatformDesireN...

PlatformDesireN...

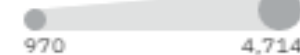


Top 10 WebFrame Desired Next Year

WebFrameDesire...

WebFrameDesireNextYear

- ASP.NET
- Django
- Angular/Angular.js
- Express



DASHBOARD TAB 3

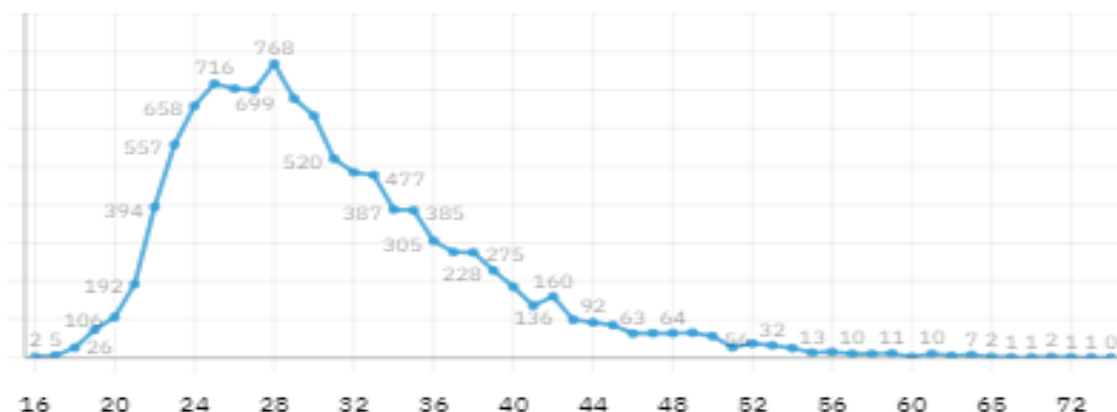
Respondent classified by Gender

Gender

● Woman ● Man

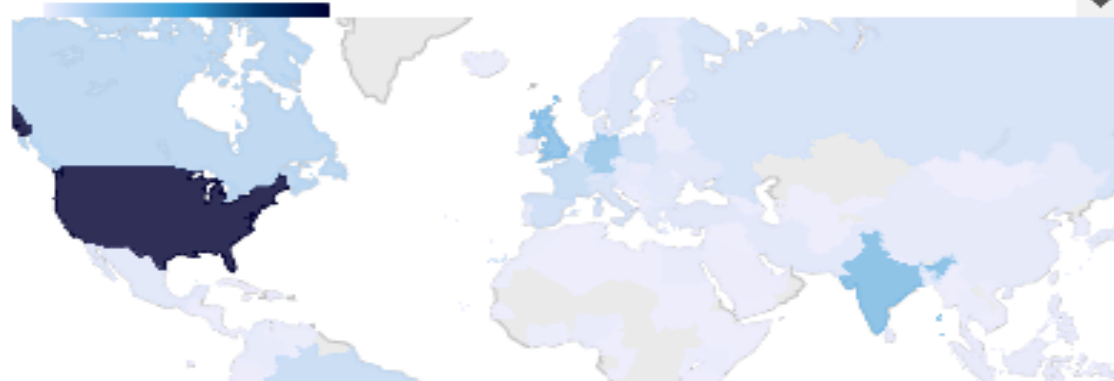


Respondent Count by Age



Respondent Count for Countries

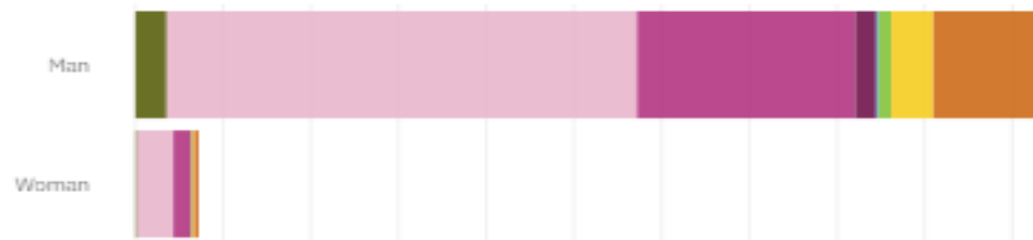
Country (Count)



Respondent Count by Gender, classified by Formal Education Level

EdLevel

● Associate degree



DISCUSSION

The overall findings and implications of the analysis of the demand for programming languages and database skills can have a significant impact on the IT industry and the individuals working in it.



OVERALL FINDINGS & IMPLICATIONS

Findings

- ▶ The analysis provides a comprehensive view of the programming languages and database skills that are in high demand and the trends in the industry. The results can help the organization and individuals understand the skills that are currently in demand and the ones that are likely to grow in popularity in the future

Implications

The results of the analysis can have several implications for both the organization and individuals in the industry.

- ▶ For the organization, the results can help them make informed decisions about their future technology investments and prioritize their technology projects based on the skills that are in high demand.
- ▶ For individuals, the results can help them understand the skills they need to acquire or improve to remain competitive in the industry and advance their careers.

CONCLUSION

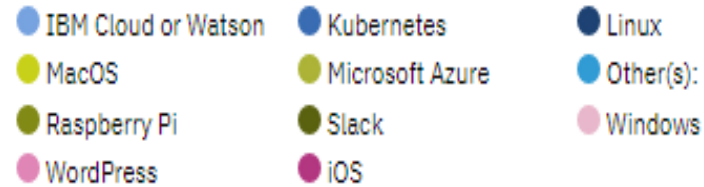
- ▶ **Programming Language Trend:** The results show that JavaScript, HTML/CSS, Python, SQL, and Typescript are the top 5 programming languages in demand. This indicates that the industry has a high demand for front-end and back-end development skills, as well as data analysis and management skills.
- ▶ **Database Trend:** The results show that PostgreSQL, mongo DB, Redis, MySQL, and Elasticsearch are the top 5 databases in demand. This highlights the growing importance of data management and big data technologies in the industry.
- ▶ **Platform Trend:** The results show that Linux, Docker, AWS, windows, and Android are the top 5 platforms that developers are working with. This highlights the versatility and adaptability of developers to work with different platforms and technologies.
- ▶ **Web Framework Trend:** The results show that React.js, Vue.js, Angular/Angular.js, APS.Net, and jQuery are the top 5 web frameworks desired next year. This highlights the growing importance of front-end development skills and the need for developers to be proficient in building dynamic and user-friendly websites.



APPENDIXS

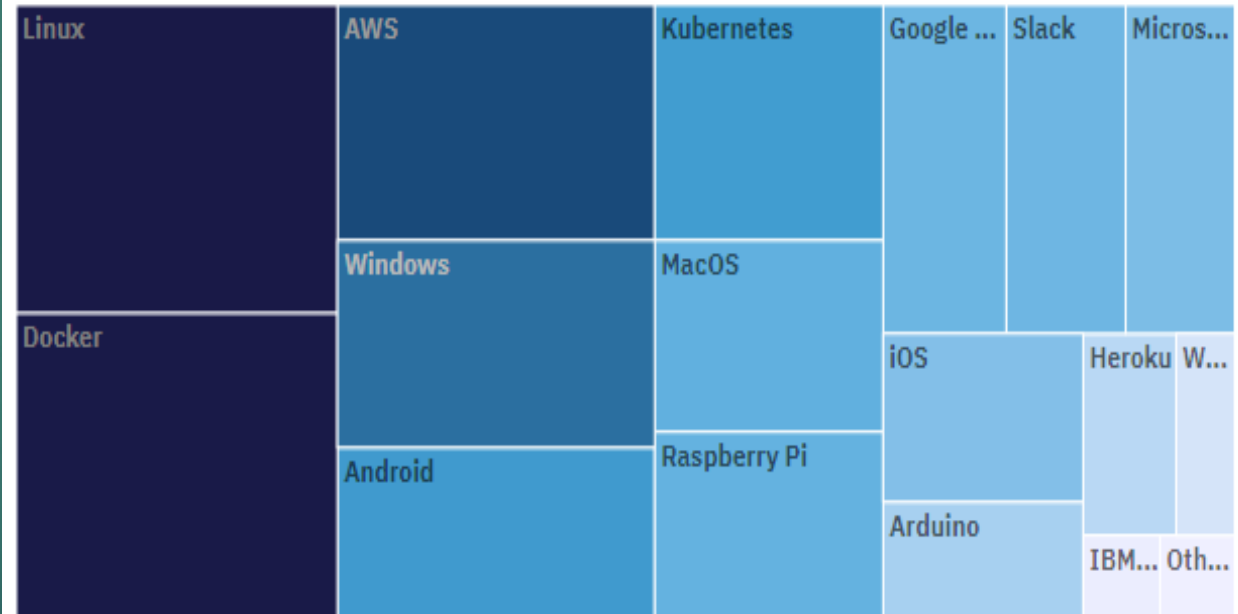
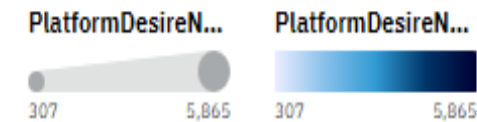
Current Year

Platform Worked With



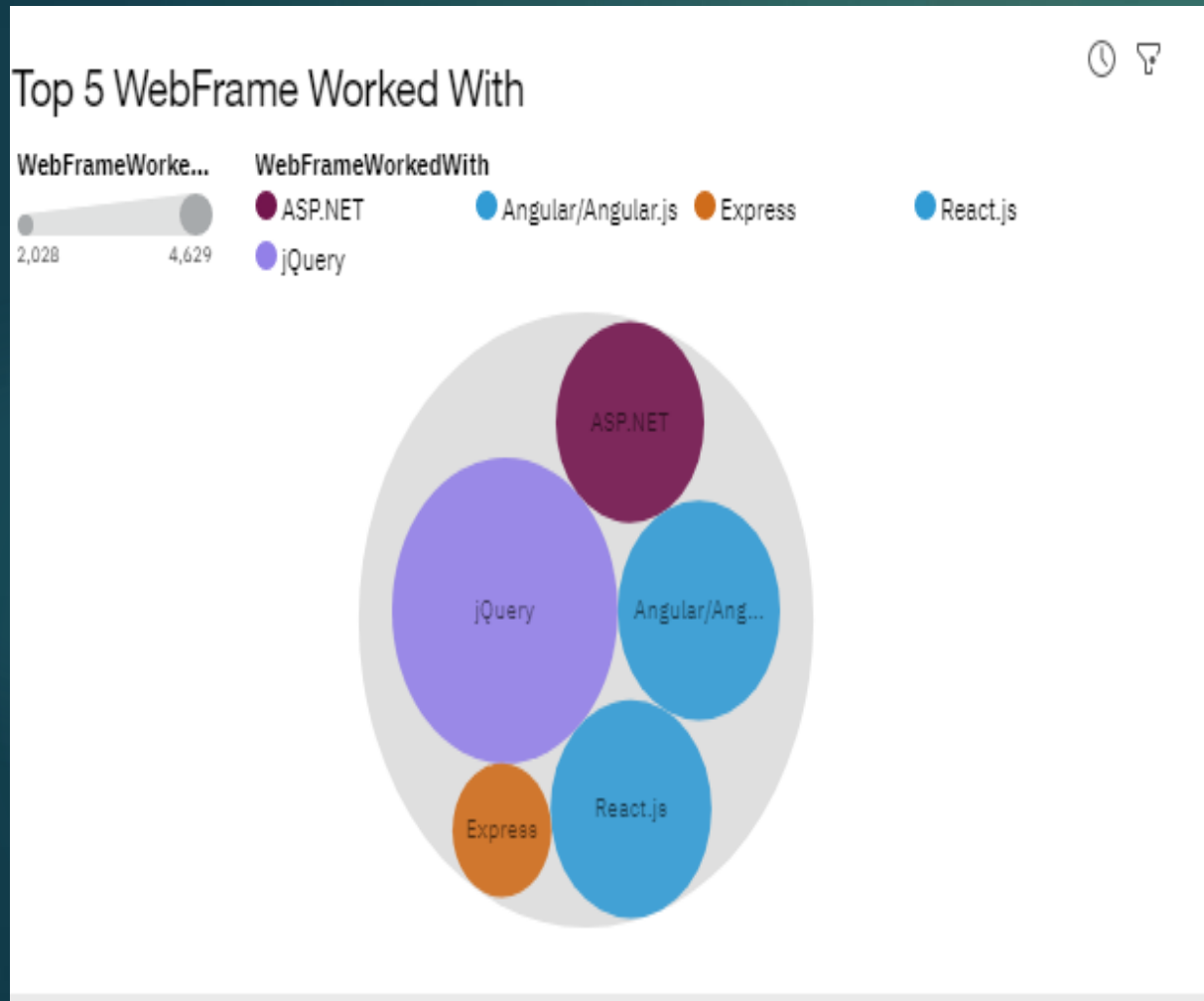
Next Year

Platform Desired Next Year.

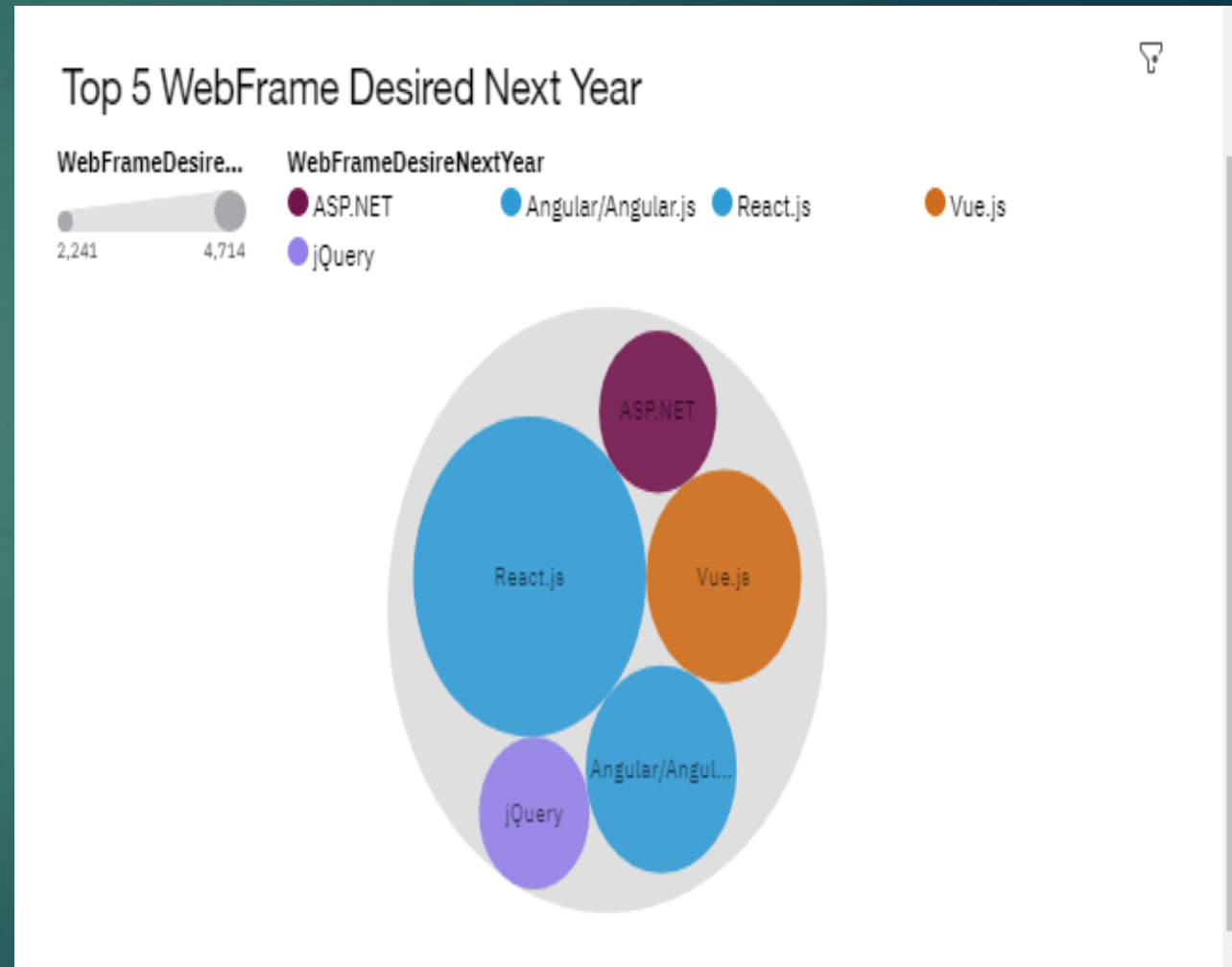


ADDITIONAL VISUALS

Current Year



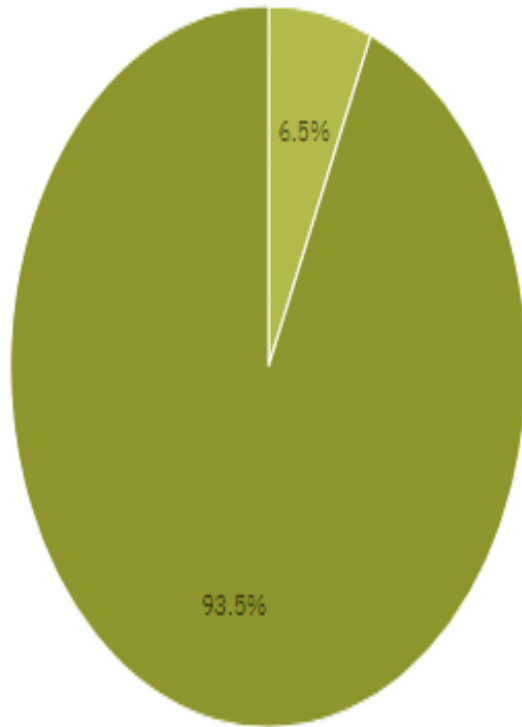
Next Year



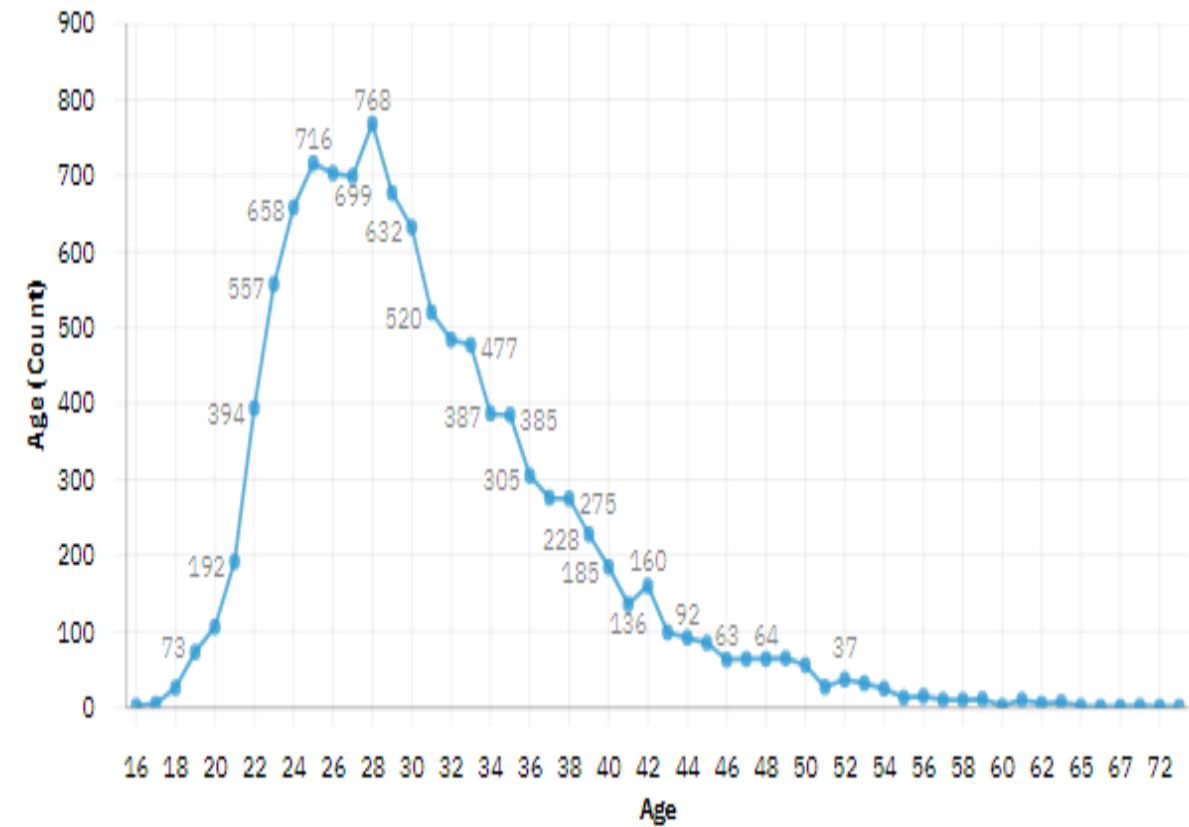
ADDITIONAL VISUALS

Respondent classified by Gender

Gender
● Woman ● Man

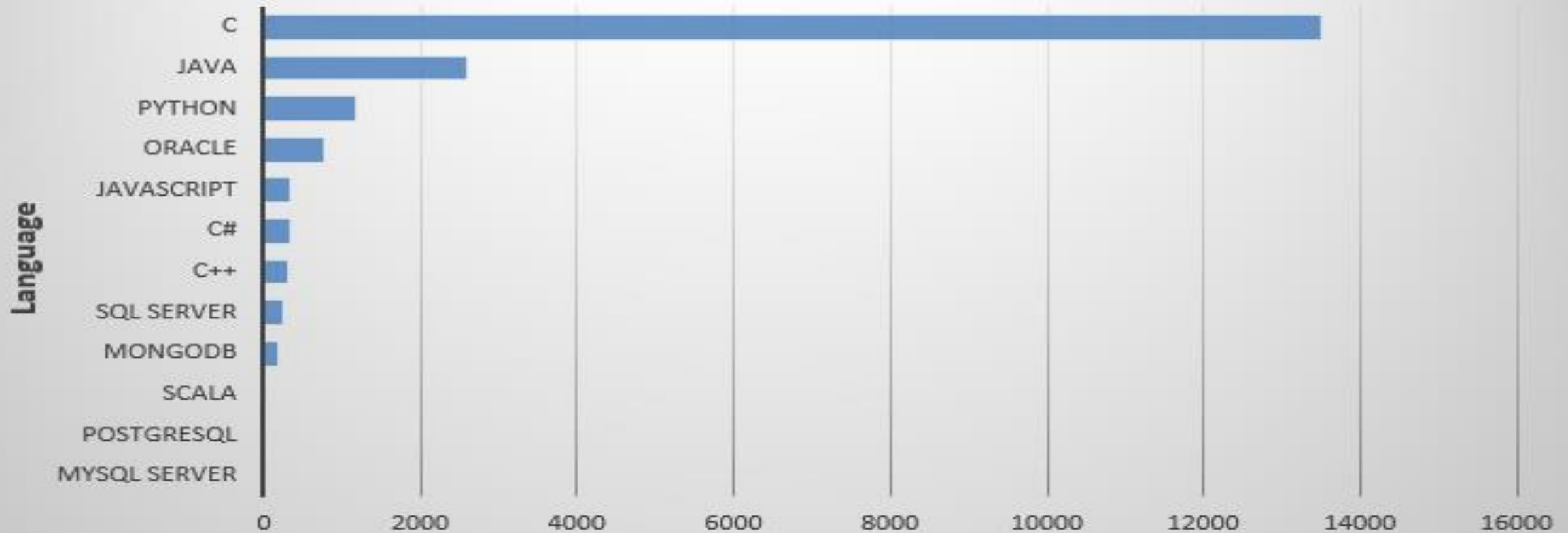


Respondent Count by Age



JOB POSTINGS

Number of Jobs for various Technology



	MySQL Server	PostgreSQL	Scala	MongoDB	SQL Server	C++	C#	JavaScript	Oracle	Python	Java	C
Number of Job Posting	0	10	33	174	250	305	333	355	784	1173	2609	13498

POPULAR LANGUAGES

Languages with Average Annual Salary




RECOMMENDATIONS

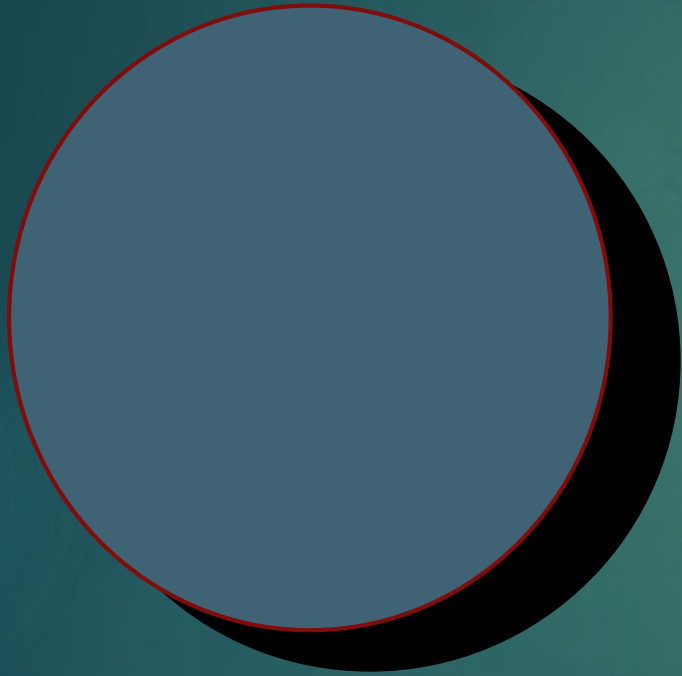
- ▶ Development of cross-functional team training programs that focus on equipping developers with knowledge of the top programming languages, databases, platforms and web frameworks. This will help organizations stay ahead of the curve and attract top talent.
- ▶ Creation of cloud-based development environments that allow developers to experiment with the latest technologies, including the top programming languages, databases, platforms and web frameworks.

RESOURCES

1. [The 2019 Stack Overflow Developer Survey Dataset](#)
2. [JOBS API](#)
3. [Popular Programming Languages](#)
4. [m5_survey_data_technologies_normalised](#)
5. [m5_survey_data_demographics](#)



“The tech industry is constantly evolving and staying ahead of the curve is crucial! Our latest data analysis shows that JavaScript, HTML/CSS, Python, SQL, and Typescript are the top programming languages in demand. Meanwhile, PostgreSQL, MongoDB, Redis, MySQL, and Elasticsearch lead the way in database skills. And, if you want to keep up with the latest platforms, Linux, Docker, AWS, Windows, and Android are the ones to watch. Finally, React.js, Vue.js, Angular/Angular.js, ASP. Net, and jQuery are the web frameworks shaping the future of the web. Stay ahead of the game and brush up on these skills today!”



Thank you!

ANY QUESTIONS?