Tool and Skill Trends in Technology

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EXECUTIVE SUMMARY

- The purpose of this report is to bring attention to trends in the popular tools and emerging skills in technology in order to keep pace with changing technologies and remain competitive.
- Collected data by scraping internet web sites and accessing APIs for the top tools and skills that are most in demand.
- Applied statistical techniques to analyze the data to identify insights and trends.
- The most popular languages currently in use that will continue to be the most popular next year are JavaScript, HTML/CSS, Python, and SQL. The most popular databases next year is predicted to be PostgreSQL, MongoDB, Redis, and MySQL. The most popular platforms next year will be Linus, Docker, AWS, and Windows. The most popular web frames next year will be React.js, Vue.js, Angular.js, and ASP.NET, and jQuery.
- It is recommended people to shift to using the most popular tools and skills to stay competitive and keep up with the fast-moving trends of the future

INTRODUCTION

- This project was conducted to analyze and identify trends in the popular tools and emerging skills in technology
- This report is for both companies seeking to be competitive with the most popular technologies, and for job seekers seeking to gain skills that are most relevant to current and future trends.
- It is important to keep pace with changing technologies and remain competitive
- Reading this report will give you insights about technology trends for programming languages, database technologies, platforms, and web frames.

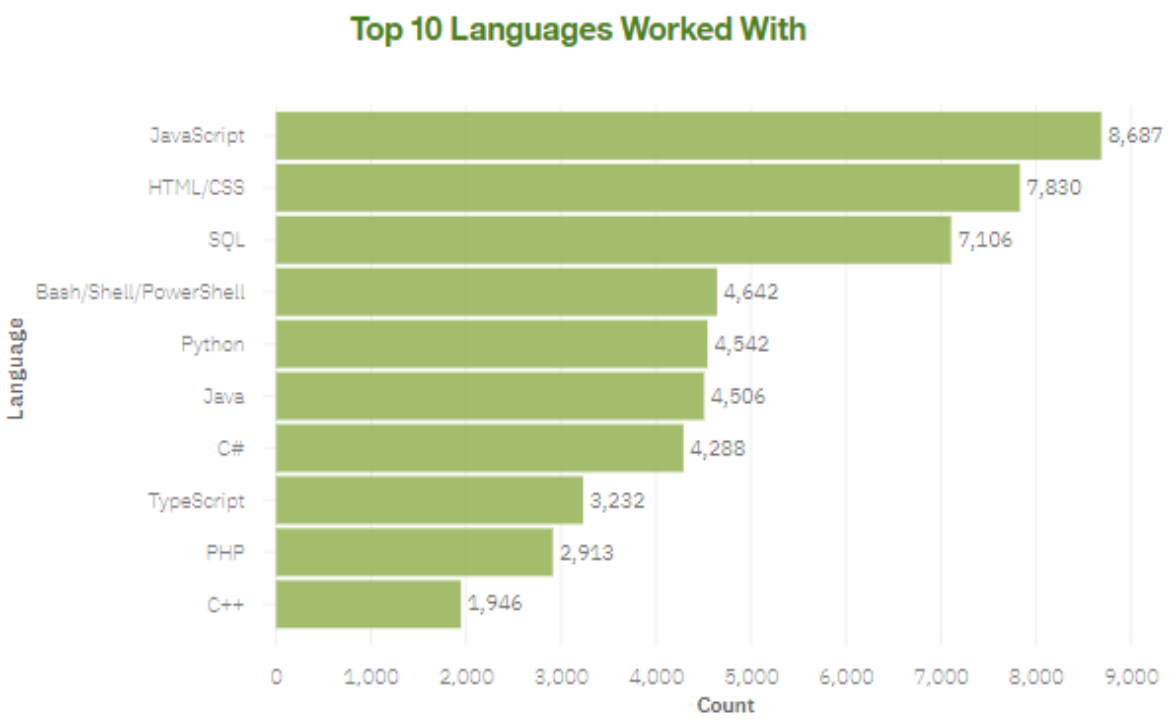
METHODOLOGY

- Collected data by scraping internet web sites and accessing APIs for the top tools and skills that are most in demand
- Data in the form of .csv files, excel sheets, and databases from sources including
  - Job postings
  - Training portals
  - Surveys
- Applied statistical techniques to analyze the data to identify insights and trends
  - Cleaned data
    - Removed null values, duplicates, normalized data
  - Analyzed data
    - Analyzed the distribution, outliers, correlation, and computed statistical measurements
  - Created visualizations
    - Created graphs and plots

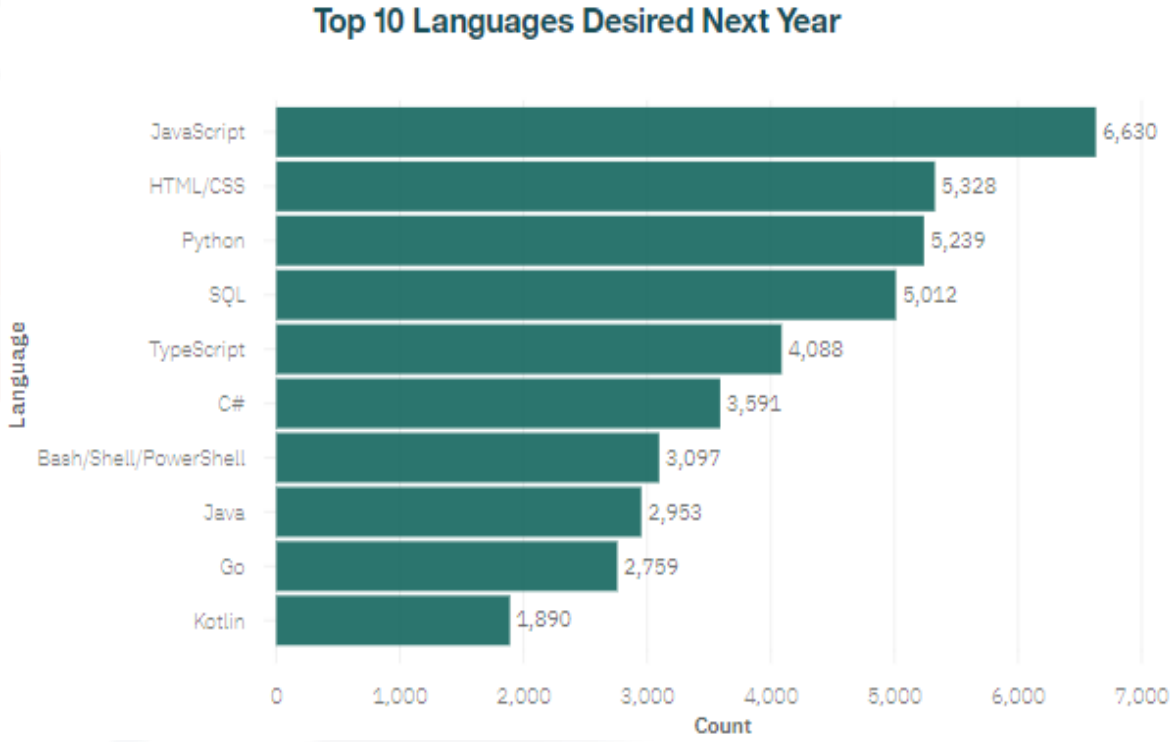
Results

PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

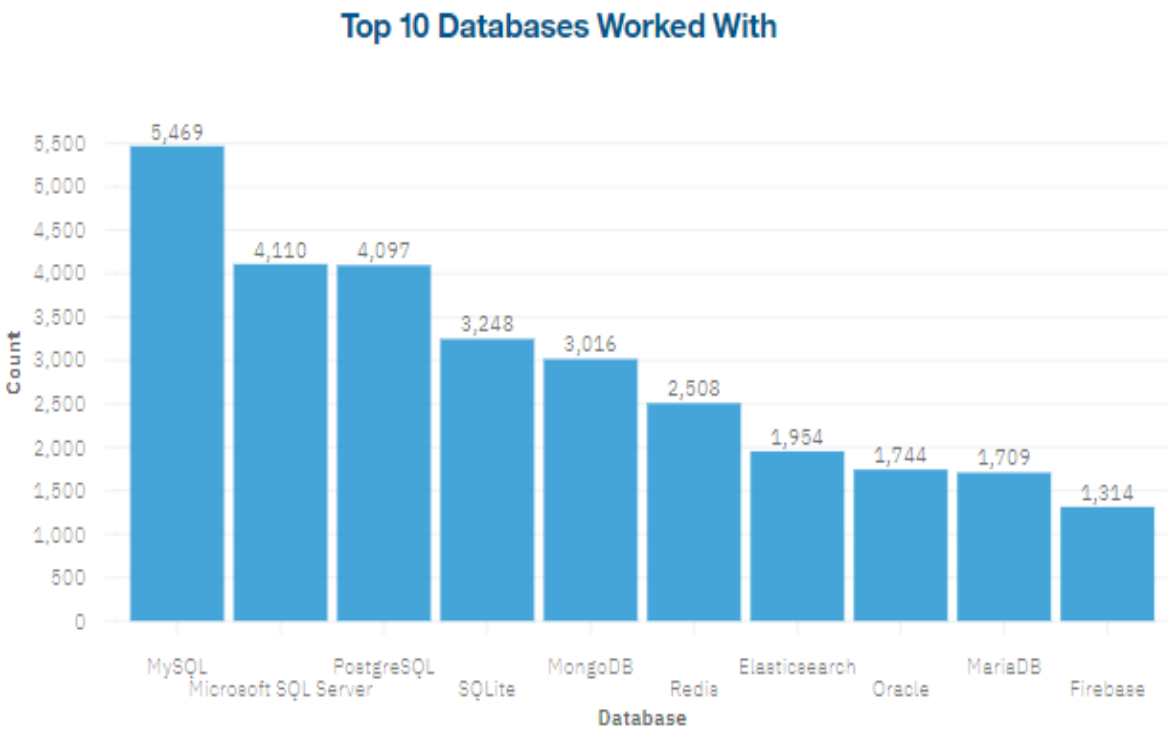
- Javascript, HTML/CSS, and SQL are currently and will continue to be the most popular
- Python and Typescript will gain popularity next year
- C++ and PHP will no longer be popular next year

Implications

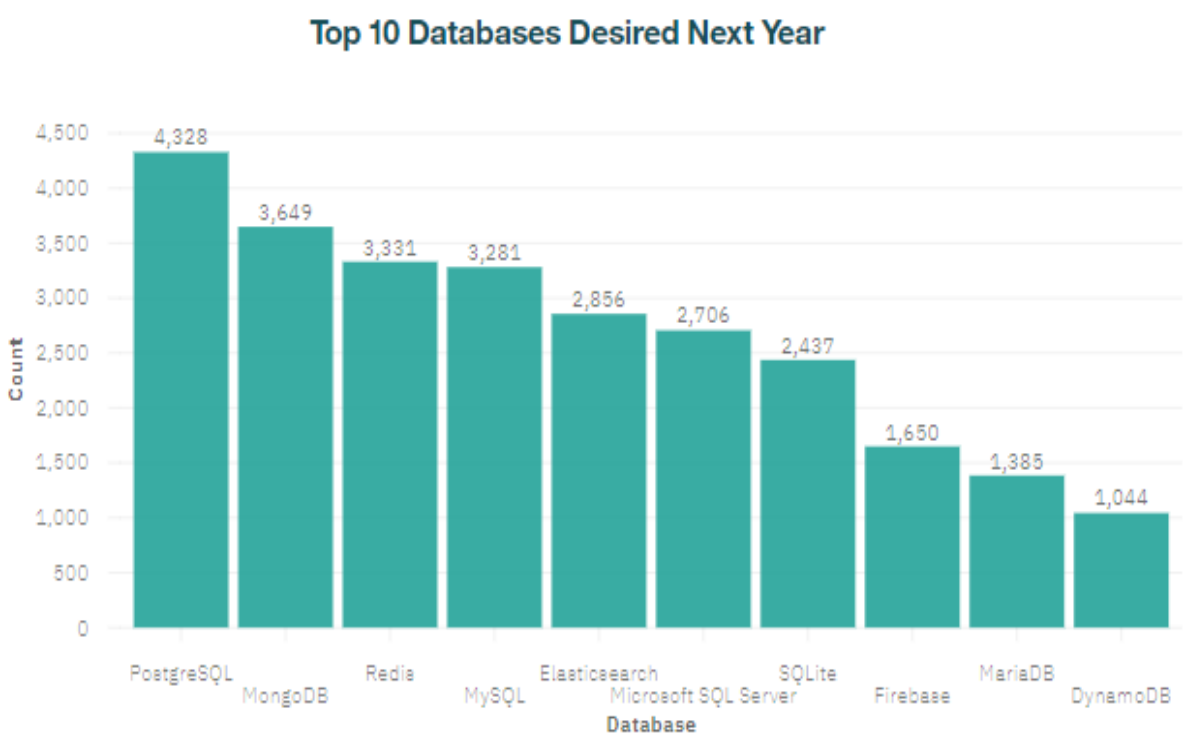
- Keeping these 3 languages whenever possible will help maintain competitiveness
- Integrating these 2 will help meet the demands of the changing trend
- It would be more reasonable to shift away from these languages

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL and PostgreSQL are currently and will continue to be among the most popular
- MongoDB and Radis will gain popularity next year
- MariaDB and Firebase will continue to not be so popular next year

Implications

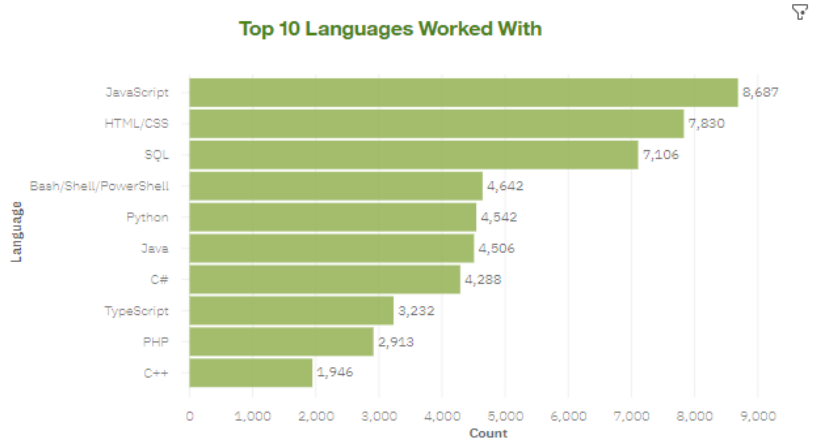
- Keeping these 2 whenever possible will help maintain competitiveness
- Integrating these 2 will help meet the demands of the changing trend
- It would be more reasonable to shift away from these database technologies

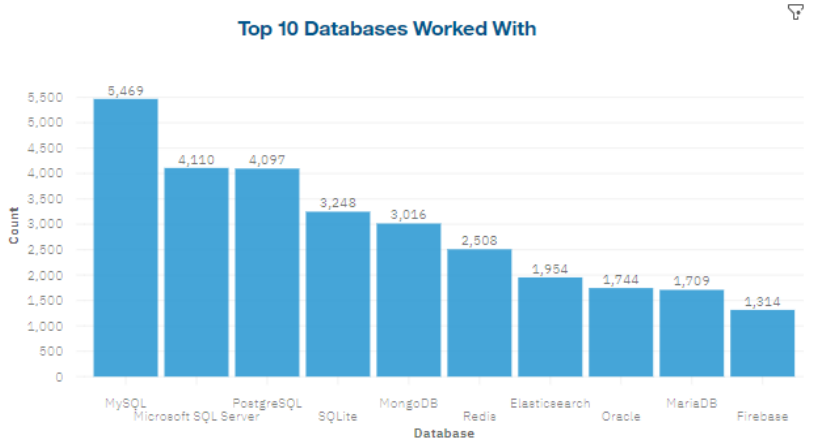
DASHBOARD

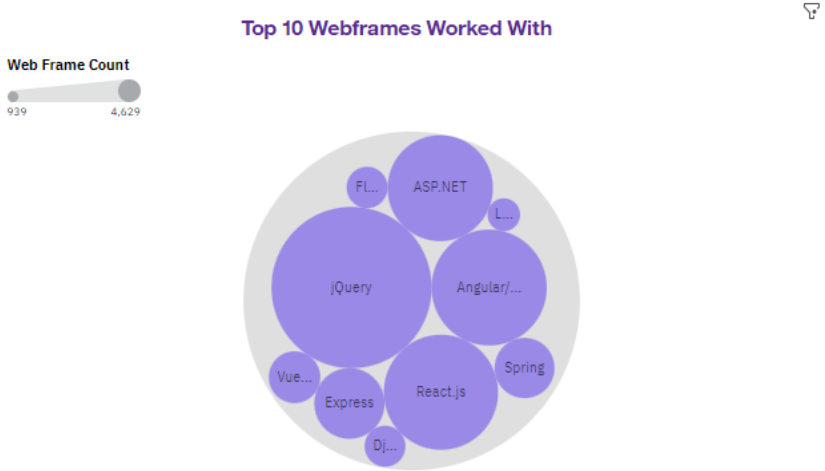
https://dataplatform.cloud.ibm.com/dashboards/809be2a5-09dd-42b5-86dc-1ca4d5133fea/view/7760de000cae0bde77e1cce407ca285079632d5ebabbd555d3d67b4908677697f0381b97c82e1f0b8c120236f7eb115f9f

DASHBOARD TAB 1

Current Technology Usage | Future Technology Trend | Demographics







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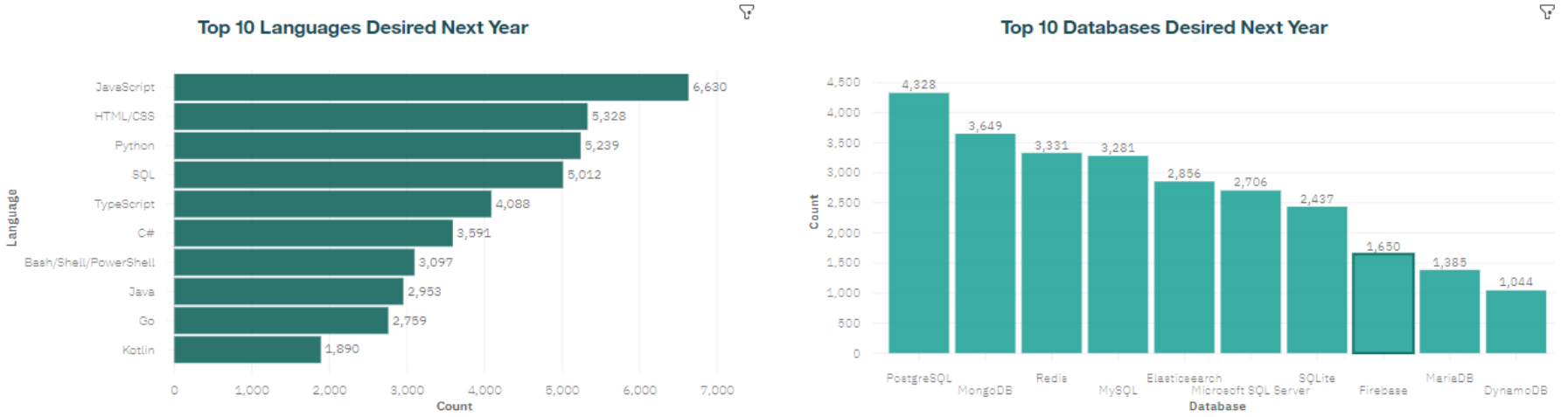
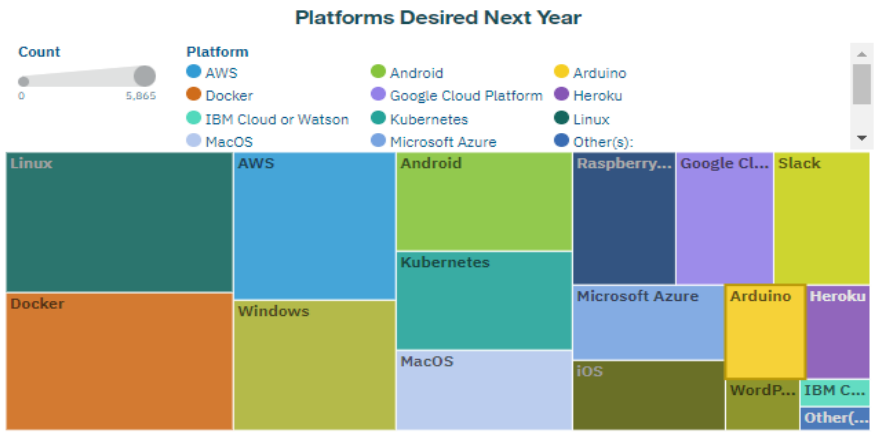
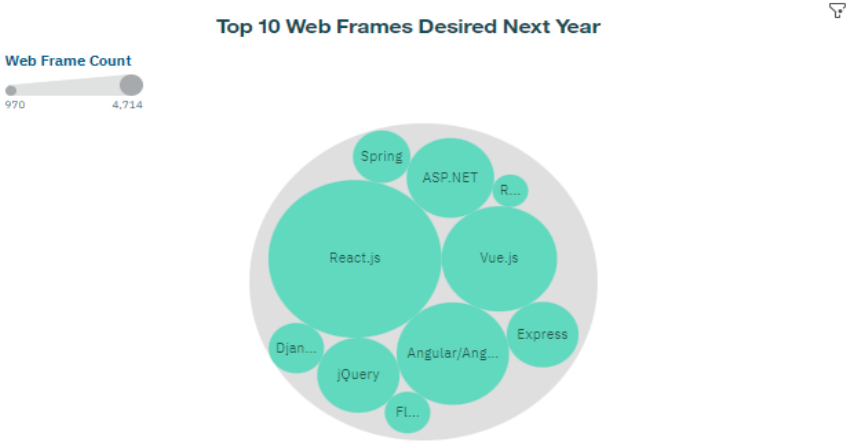
SKILLS NETWORK

DASHBOARD TAB 2

Current Technology Usage | Future Technology Trend | Demographics







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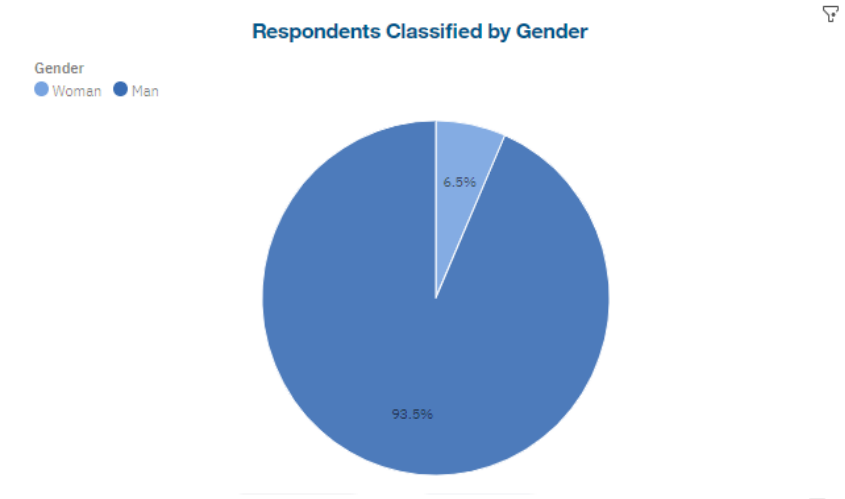
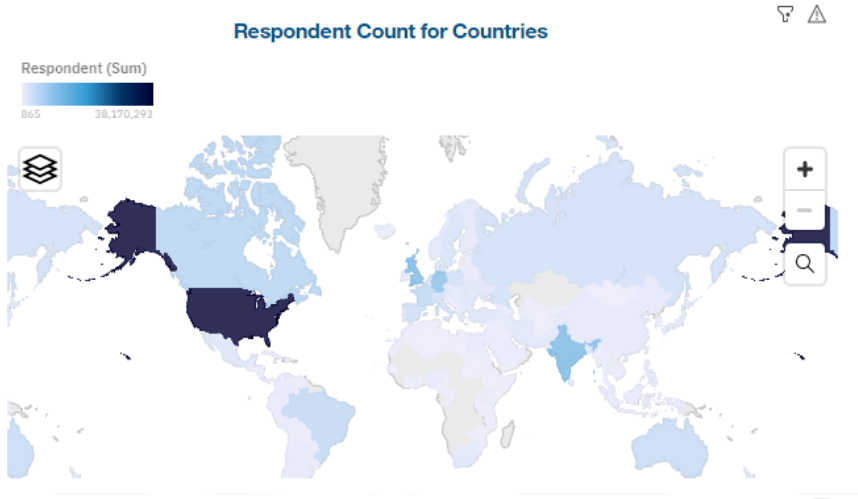
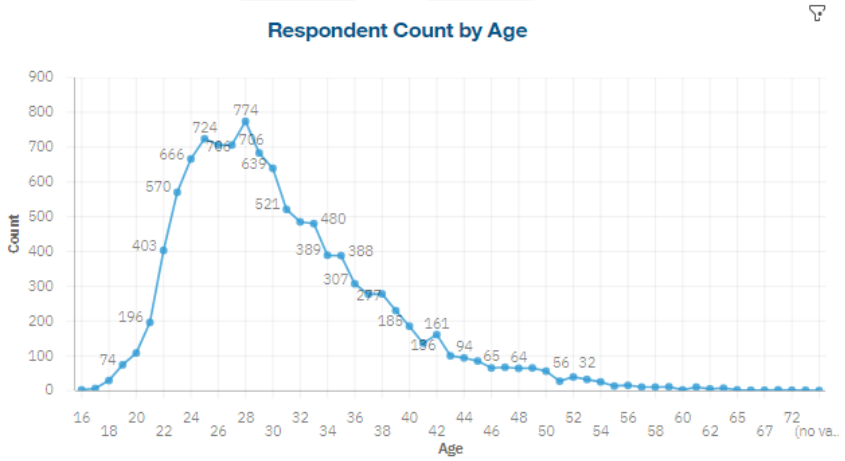
SKILLS NETWORK

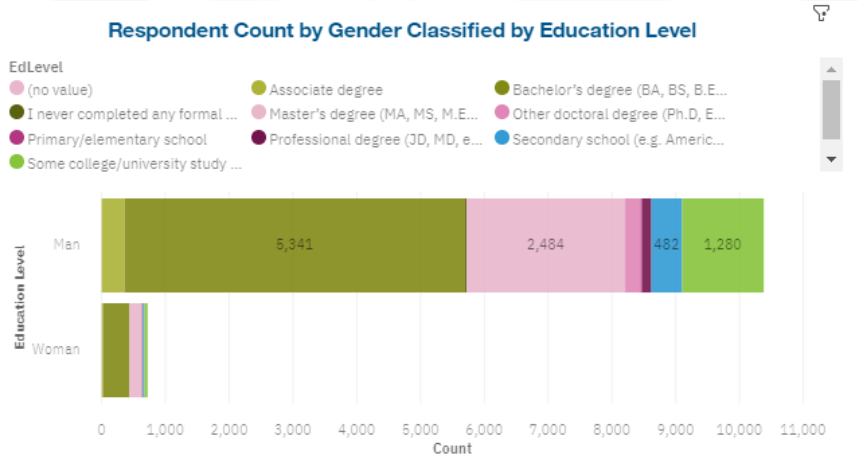
DASHBOARD TAB 3

Current Technology Usage | Future Technology Trend | Demographics









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SKILLS NETWORK

DISCUSSION

- It would be beneficial for businesses to identify and follow technology trends in order to maintain competitiveness and keep up
- However, the trends will constantly keep changing, and it isn't practical to constantly change the technologies they use
- This study only looks at the current year and the next year, so it is not a comprehensive study to project trends for the next few years
- It would be best to choose technologies that are not unpopular but also are flexible and versatile

OVERALL FINDINGS & IMPLICATIONS

Findings

- JavaScript, HTML/CSS, Python, SQL, C#, Java were among the top 10 this year and will continue to be next year.
- Linux, Docker, AWS, and Windows were the top platforms used this year and will continue to be the top next year.
- PostgreSQL, MongoDB, and Redis rise in popularity, while MicrosoftSQLServer, SQLite, and MySQL slightly decrease in popularity.

Implications

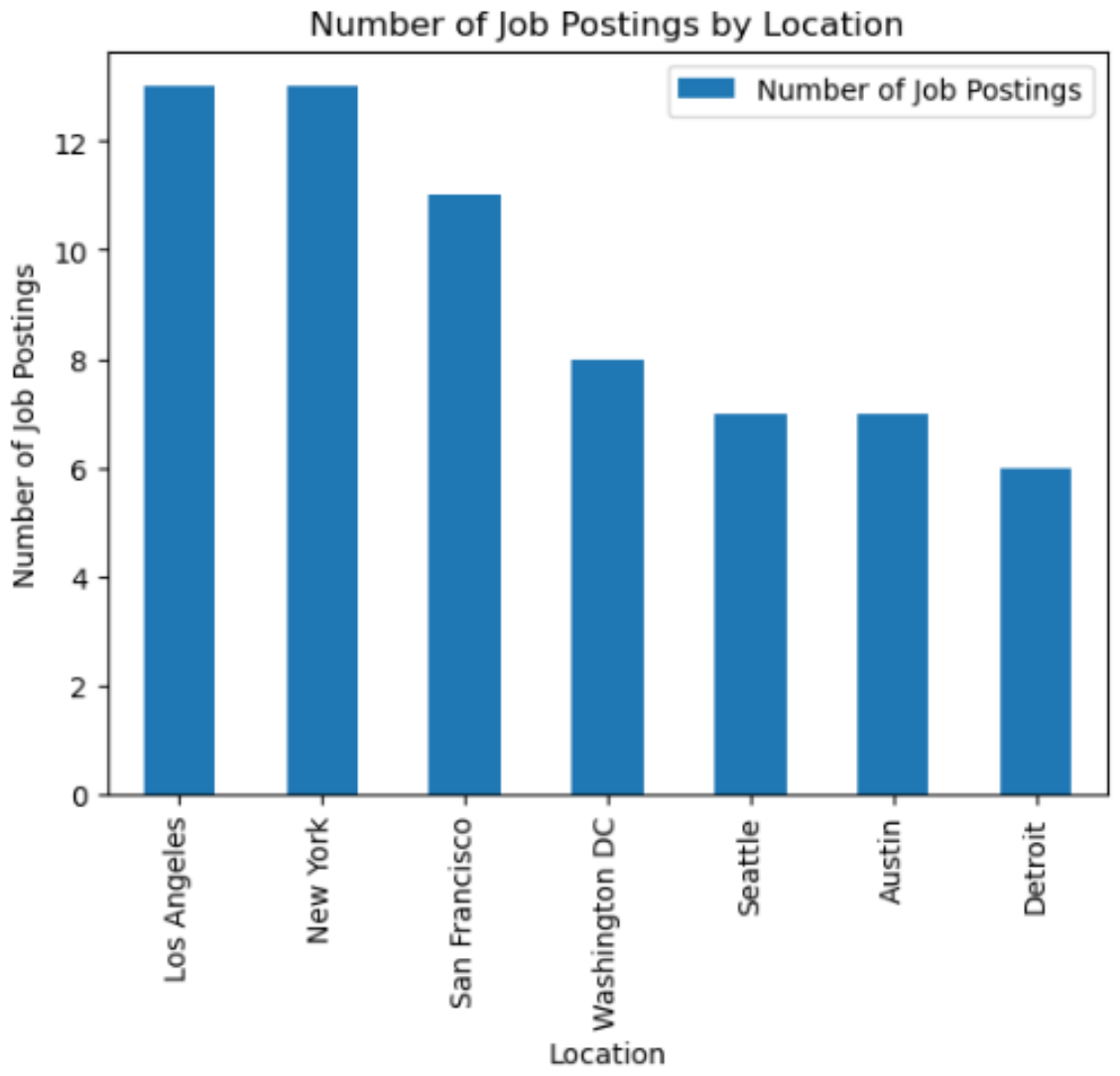
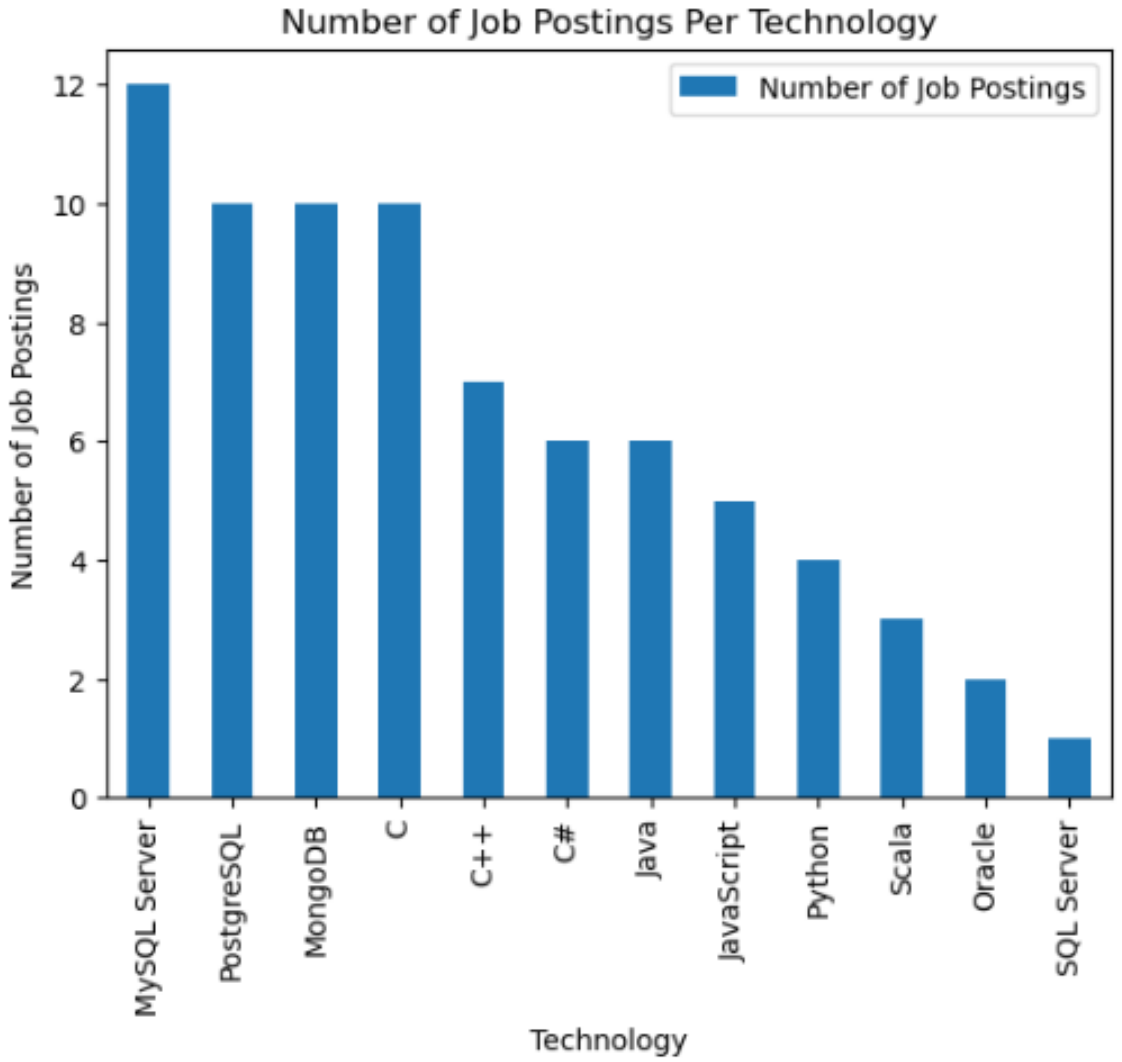
- These languages will probably continue to be popular, so using these will help with keeping up with programming language trends
- Staying with these 4 platforms will ensure top competitiveness within platforms.
- All these remain among the top 10 in the current and next year. Thus, shifting from one to another within these may not be necessary to increase competitiveness within databases.

CONCLUSION

- The most popular programming languages to aim for are JavaScript, HTML/CSS, Python, SQL, C#, Java
- The most popular platforms to aim for are Linux, Docker, AWS, and Windows
- PostgreSQL, MongoDB, Redis, Microsoft SQLServer, SQLite, and MySQL are among the most popular databases
- It would be best to choose technologies that are not unpopular but also are flexible and versatile

Appendix

JOB POSTINGS



POPULAR LANGUAGES