



# The Trends of Programming Languages

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# OUTLINE

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- Executive Summary
- Introduction
- Methodology
- Results
  - Visualization – Charts
  - Dashboard
- Discussion
  - Findings & Implications
- Conclusion
- Appendix

# EXECUTIVE SUMMARY

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- For this presentation, the data was collected from the Stack-overflow annual survey.
- The data was analyzed to identify insights and top trends in
  - The current and future programming languages
  - The current and future databases
  - The demographics of the respondents
- This information was then brought together in a series of Dashboards to provide insights and gauge future trends in programming languages.

# INTRODUCTION

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- This presentation analyzes the current in-demand programming languages and their future trends.
- The focus problems are
  - Where the current skills of the respondents lie concerning programming languages and databases.
  - Where do the respondents lean toward programming languages and databases for the following year?
  - What is the demographic of the respondents?

# METHODOLOGY

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The following methodology was used to prepare for this presentation

- 1) Data collection
- 2) Data wrangling
- 3) Exploratory data analysis
- 4) Data visualization
- 5) Dashboard creation
  - IBM Cognos was used for this purpose.

# RESULTS

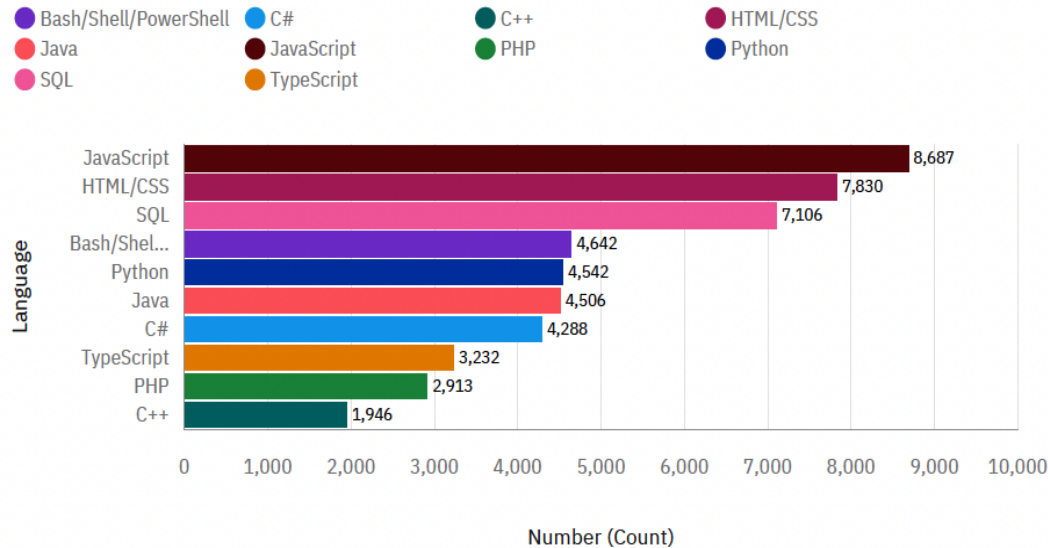
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The results of this analysis are fascinating and insightful. The dashboards are available for anyone to go over. The link for them is provided in the subsequent slides.

# PROGRAMMING LANGUAGE TRENDS

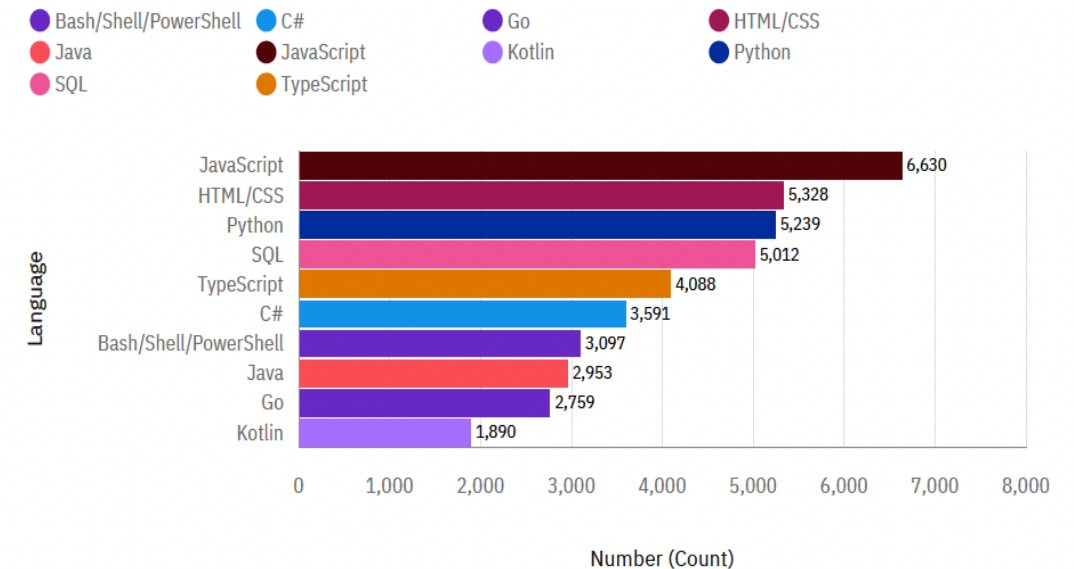
## Current Year

Top 10 Languages Worked With



## Next Year

Top 10 Languages Desired Next Year



# PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- JavaScript is the most preferred language among the respondents.
- Kotlin and Go enter into the Top 10 languages for the following year.
- Python is gaining popularity as a desired language.

## Implications

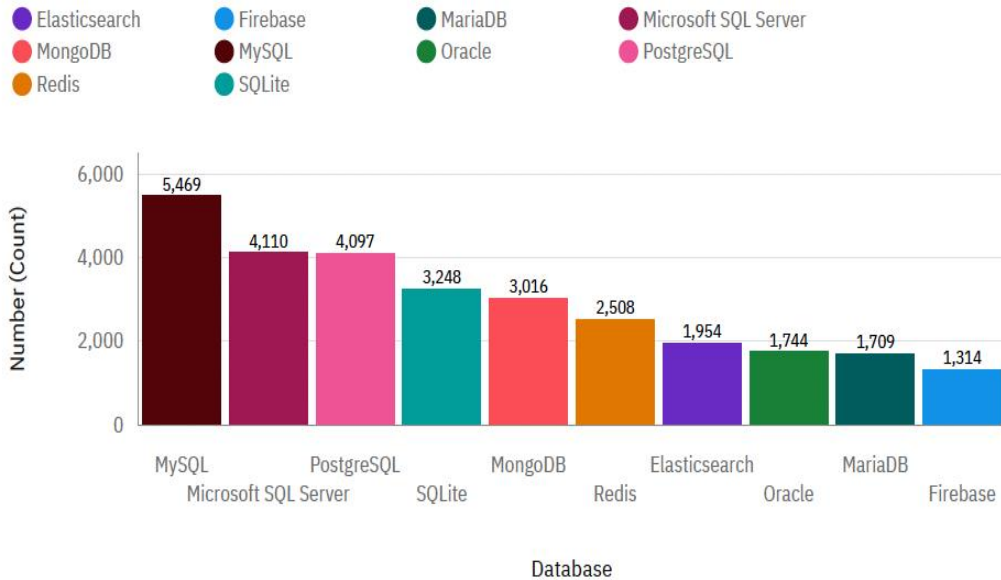
- Web development is the most in-demand skill now and for the following year.
- Respondents want to stay relevant in the changing landscape of technology.
- The current popularity of AI and ML is on the respondents' minds.



# DATABASE TRENDS

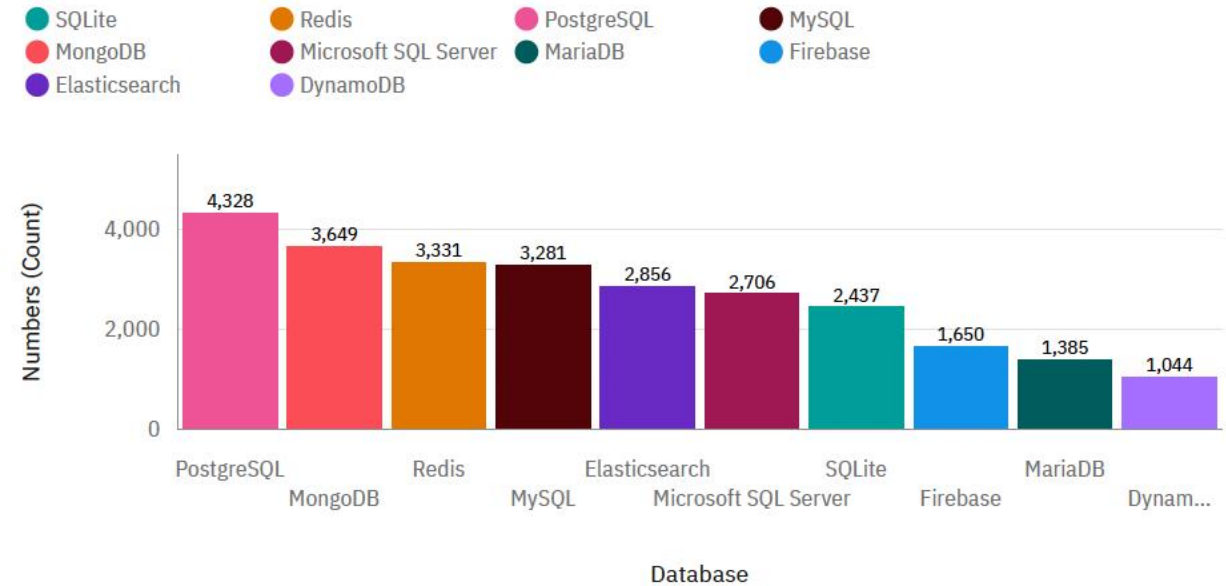
## Current Year

Top 10 Databases Worked With



## Next Year

Top 10 Databases Desired Next Year



# DATABASE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- MySQL and MS SQL Server are the top current databases.
- The presence of Firebase in the top 10 desired databases is a surprise.
- Oracle falls out of the top 10 databases desired.

## Implications

- The SQL language, being the top 3 current language explains this.
- This implies the move to online databases is happening.
- This implies the shift of the industry towards cloud first and open databases.

# DASHBOARD

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The link for the IBM Cognos Dashboard

[https://github.com/orionishere/IBM\\_Data\\_Analist\\_Capstone/blob/main/IBM%20Data%20Analyst%20Capstone%20Project.pdf](https://github.com/orionishere/IBM_Data_Analist_Capstone/blob/main/IBM%20Data%20Analyst%20Capstone%20Project.pdf)

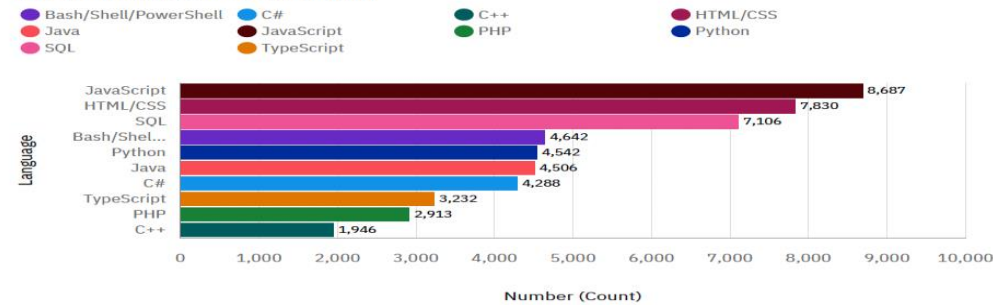
# Current Technology Usage

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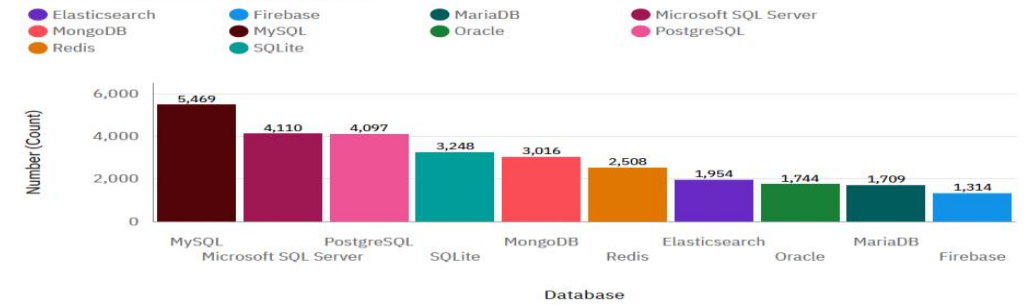
IBM Data Analyst Capstone Project

## Current Technology Usage

### Top 10 Languages Worked With



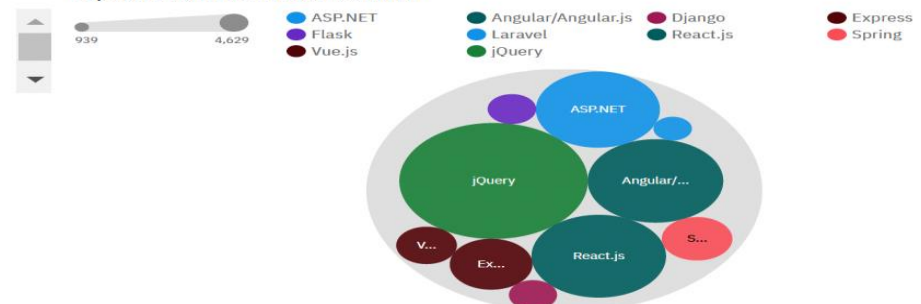
### Top 10 Databases Worked With



### Platforms Worked With



### Top 10 Webframe Worked With



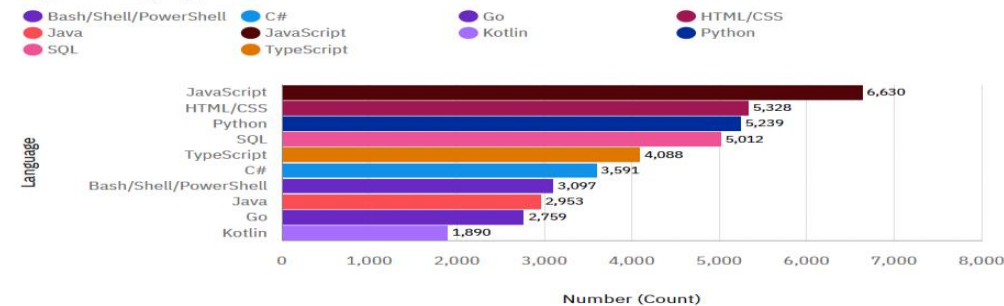
# Future Technology Trend

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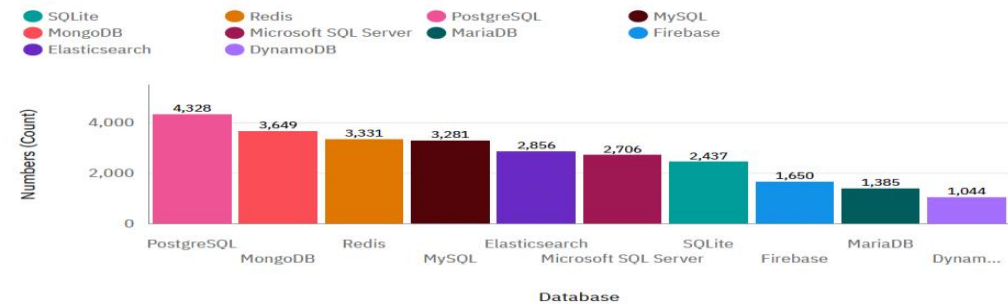
IBM Data Analyst Capstone Project

## Future Technology Trend

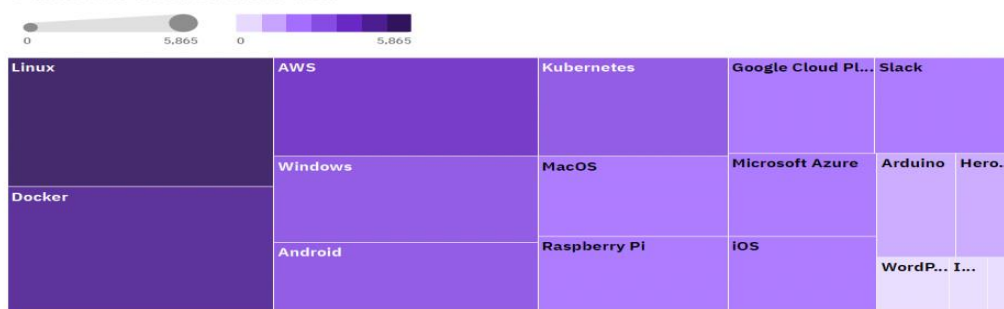
### Top 10 Languages Desired Next Year



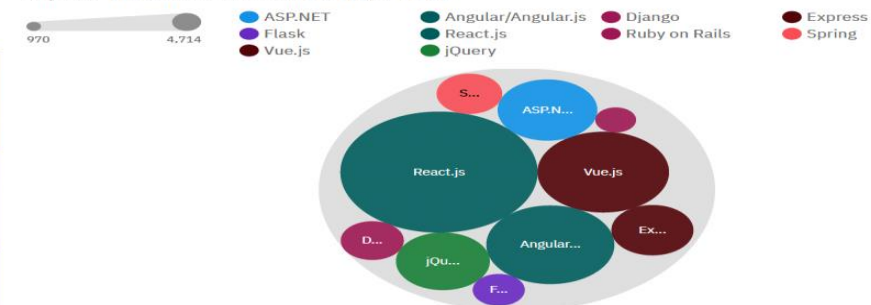
### Top 10 Databases Desired Next Year



### Platforms Desired Next Year



### Top 10 Webframes Desired Next Year



# Demographics

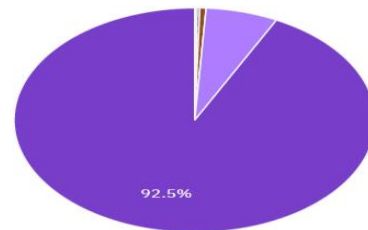
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IBM Data Analyst Capstone Project

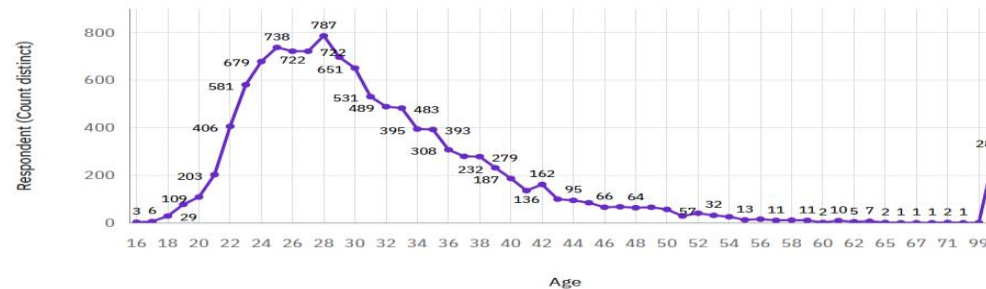
## Demographics

### Gender Distribution

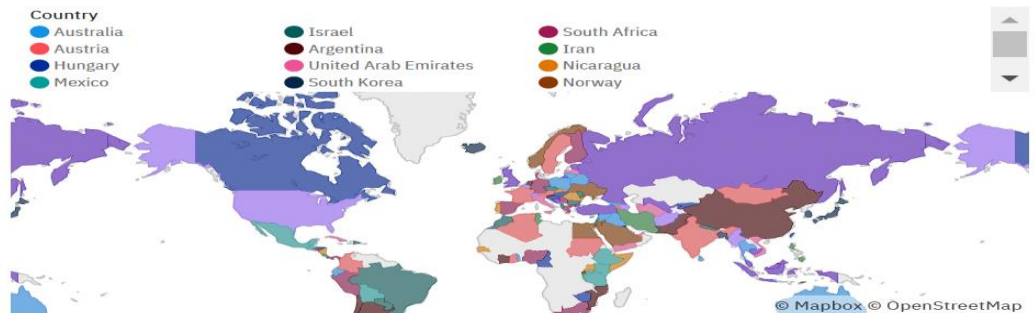
(no value)  
Woman;Non-binary, genderqueer,...  
Woman  
Woman;Man;Non-binary, genderq...  
Man;Non-binary, genderqueer, or ...  
Man  
Woman;Man  
Non-binary, genderqueer, or gend...



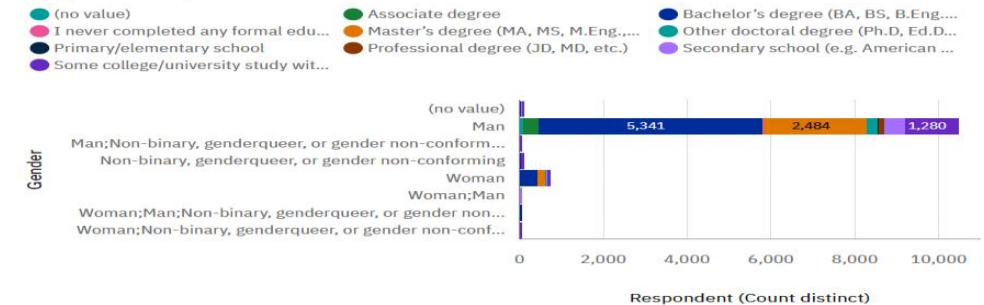
### Number of Respondents by Age



### Respondents by Country



### Respondent by Gender and Education Level



<https://us1.ca.analytics.ibm.com/bi/?perspective=dashboard&id=i9CEB9A62D7ED40459DFB891C636050E2&objRef=i9CEB9A62D7ED40459DFB891C636050E2&options%5BdisableGlassPrefetch%5D...>

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# DISCUSSION

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- The demographic analyses of the respondents reveal some harsh realities of the current technology landscape. The share of female respondents is minuscule compared to the male respondents. The LGBTQ community is also underrepresented here. Geographically speaking, the respondents are diverse.



# OVERALL FINDINGS & IMPLICATIONS

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## Findings

- The women and LGBTQ communities are underrepresented
- JavaScript dominates both current and future desired languages.
- The presence of Python and SQL in the Top 10 desired languages.

## Implications

- Men still dominate the tech landscape.
- Web development is still an in-demand skill and will remain so.
- This underlines the importance to AI and ML skills given by current respondents.



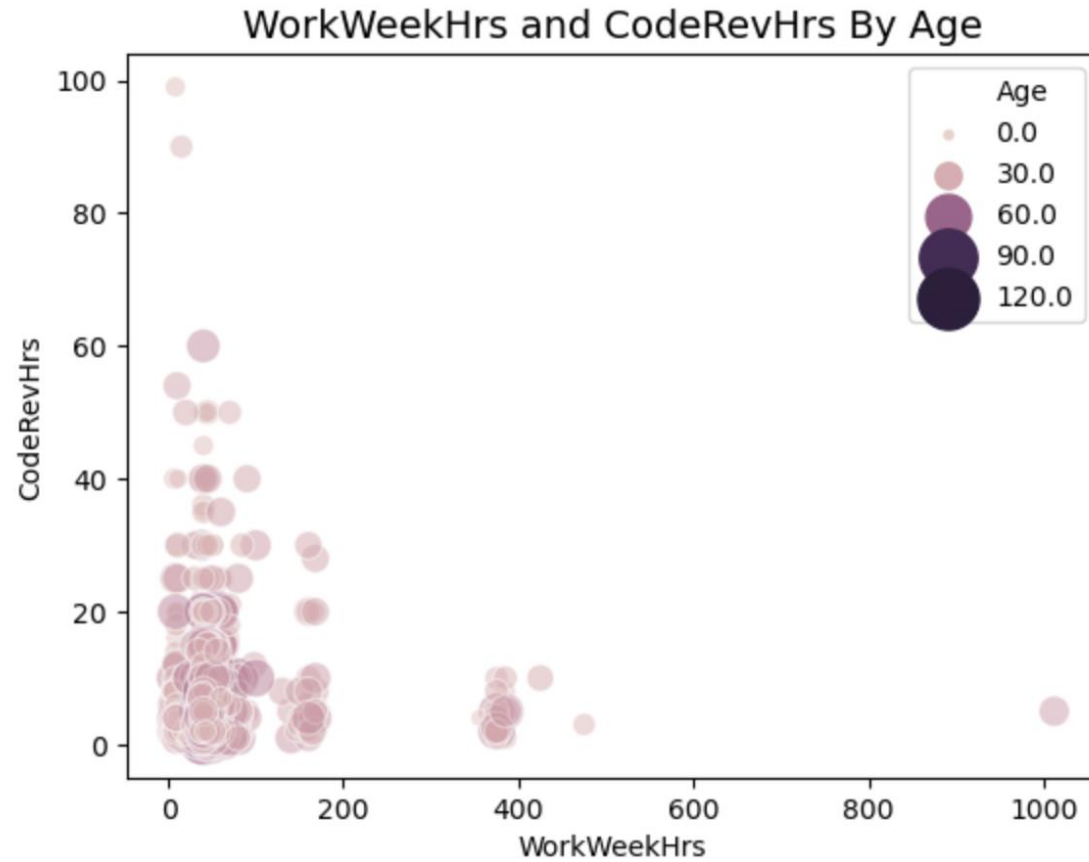
# CONCLUSION

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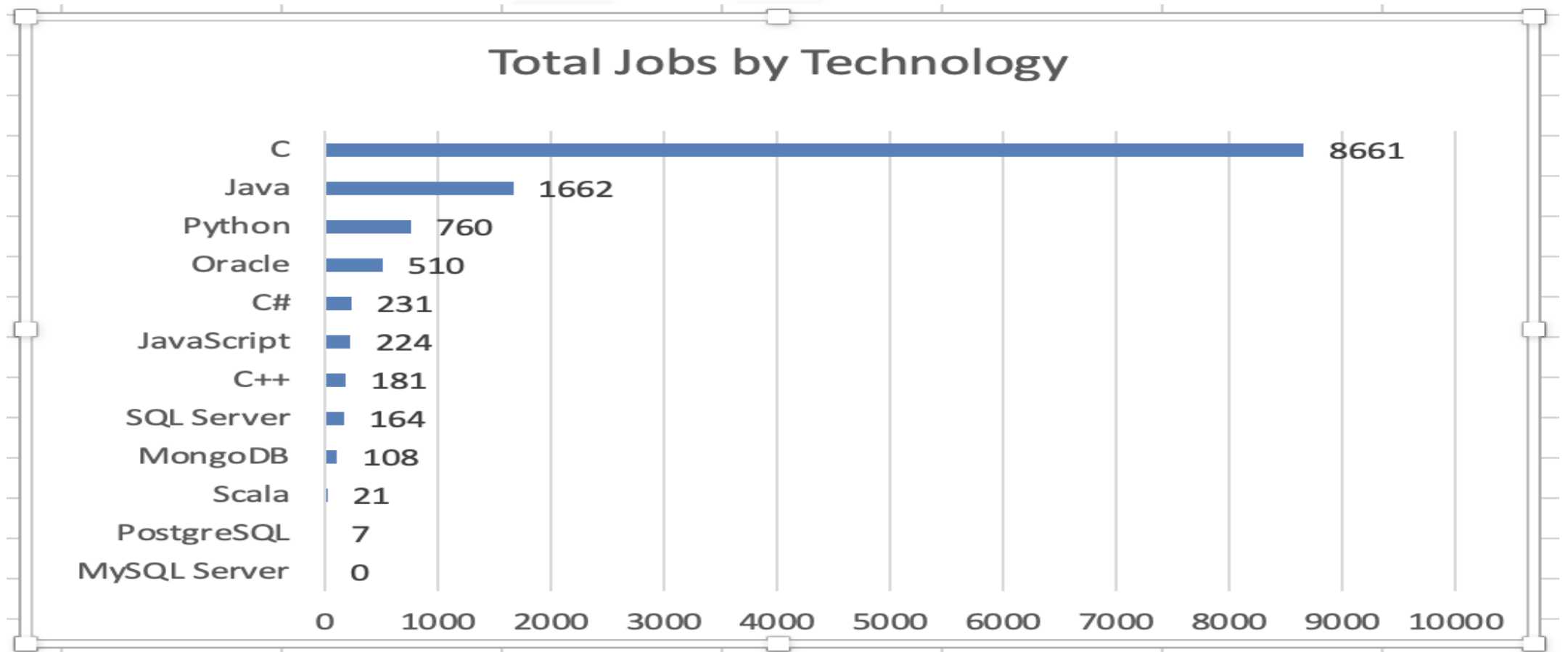


- Women and LGBTQ communities need to be given more opportunities in the future tech landscape, which will provide a different perspective.
- The top 10 desired databases clearly show a shift to more open-source and cloud-first technologies.
- Windows and Linux are still the most dominant platforms for the developer community.
- The dominance of React.js and Angular web frame is evident, which implies that Web development is still an in-demand skill.

# APPENDIX



# JOB POSTINGS



# POPULAR LANGUAGES

