



# Developer Survey Results Analysis

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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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- Two data sets based on the demographics and data technologies were analyzed to identify the present and future data technologies trends among people from around the world.
- A Dashboard was created having three tabs:
  - Current data technologies
    - Top three languages used were JavaScript, HTML/CSS, and SQL
    - Top three Databases included MySQL, Microsoft Server SQL, and PostgreSQL
    - Top 3 Web frames were jQuery, Angular/Angular.js, and React.js
  - Future data technologies
    - Top 3 languages desired for next year include JavaScript, HTML/CSS, and Python
    - Top 3 databases desired for the next year are PostgreSQL, MongoDB, and Redis
    - Top three web frames desired for next year are React.js, Angular/Angular.js, and Vue.js
  - Demographics of respondents
    - Majority of the respondents were observed to be males in the age range between 21-39
    - Respondents were observed to be primarily from the US, India, UK, and Germany
    - Many of the respondents for observed to have at least a bachelors degree
- IBM Cognos Dashboard Embedded (CDE) platform was used to analyze and visualize the results.

# INTRODUCTION

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- To visualize the data, dashboards were created to emphasize the current and future trends of the technologies data
- Problem:
  - From such a clustered data, the present and future data trends considering the various different demographics of the respondents
- Through creating dashboards, the data was visualized based on the top 10 present and future categories based on respondent gender, education, age, and countries

# METHODOLOGY

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- The two datasets used were based on the demographics and data technologies were used to visualize the present and future data trends based on demographics
- Due to the data sets being modified subsets from Stack Overflow, data cleaning wasn't required. Filtering option was used to ignore the null values from data
- IBM Cognos Dashboard Embedded (CDE) platform was used to analyze and visualize the results

# RESULTS

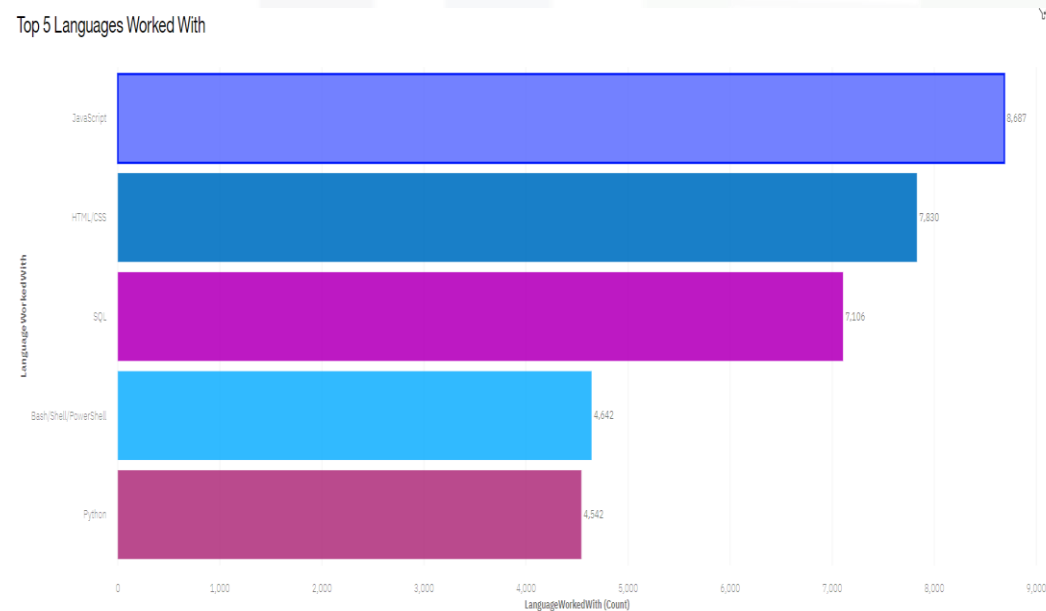
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- The data was collected from stack overflow blog under ODbI: Database License. It was further modified and used for analysis
- It consisted of two datasets:
  - Survey technology data was made up of 75k respondents asking present and future technology interests.
  - Survey demographics data was made up of 11k respondents asking various questions pertaining to country, age, education, and etc.
- The results were visualized in the dashboard

# PROGRAMMING LANGUAGE TRENDS

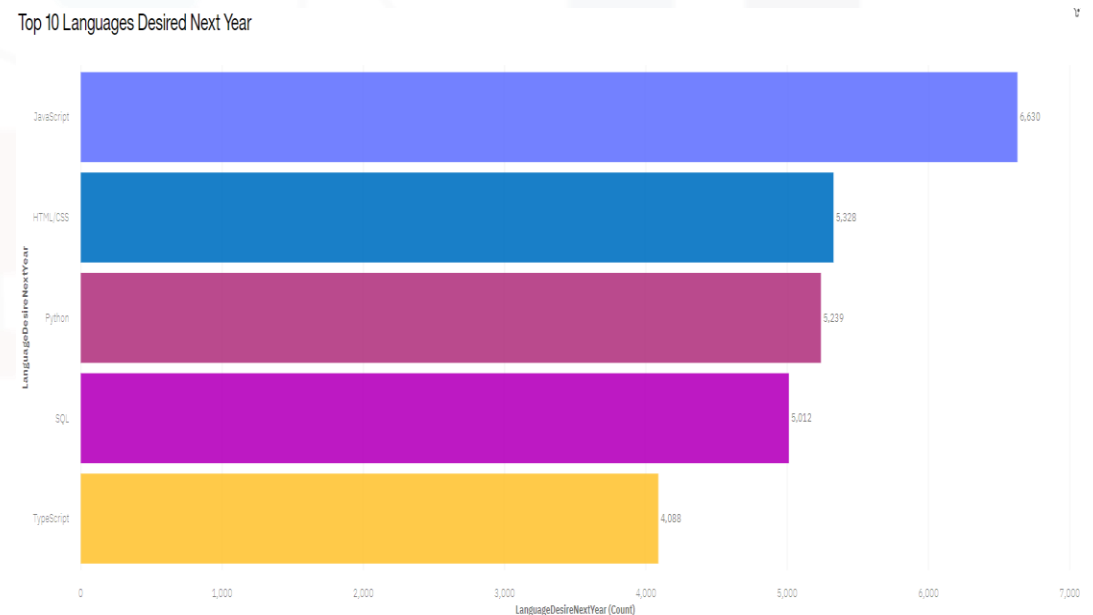
## Current Year

Top 5 Languages Worked With



## Next Year

Top 10 Languages Desired Next Year



# PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

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## Findings:

- JavaScript, HTML/CSS, Python, and SQL were observed to be the preferred language for the current and future programming language trends

## Implications

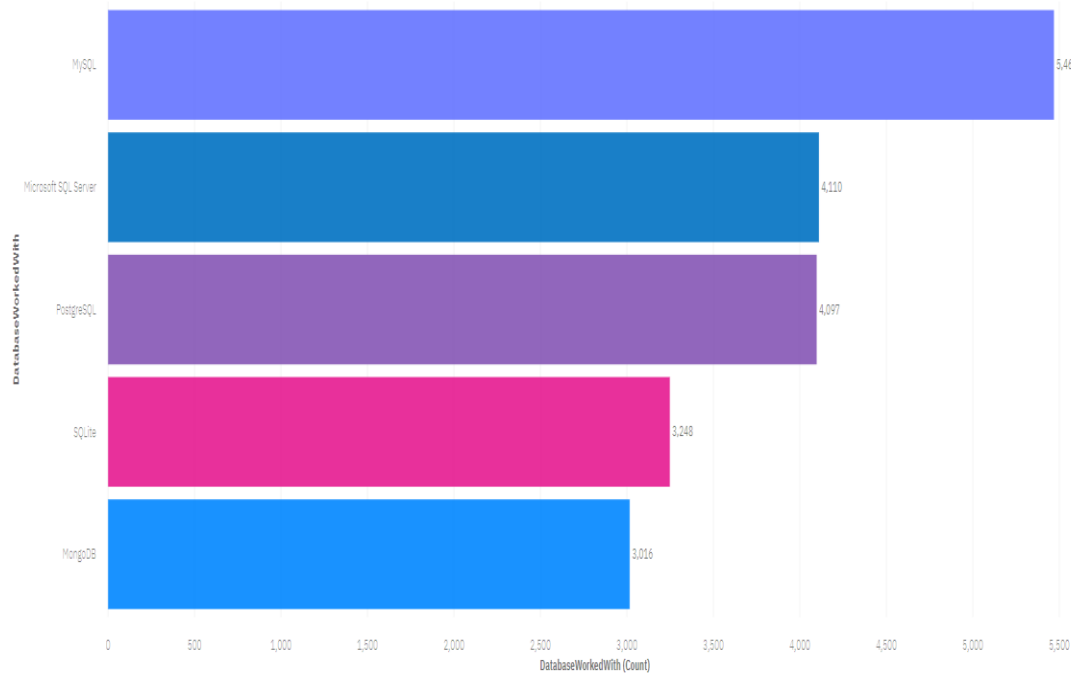
- The job market would continue to see programmers skilled in JavaScript, HTML, Python, and SQL
- This could lead to a high saturation of programmers in the market with these skills



# DATABASE TRENDS

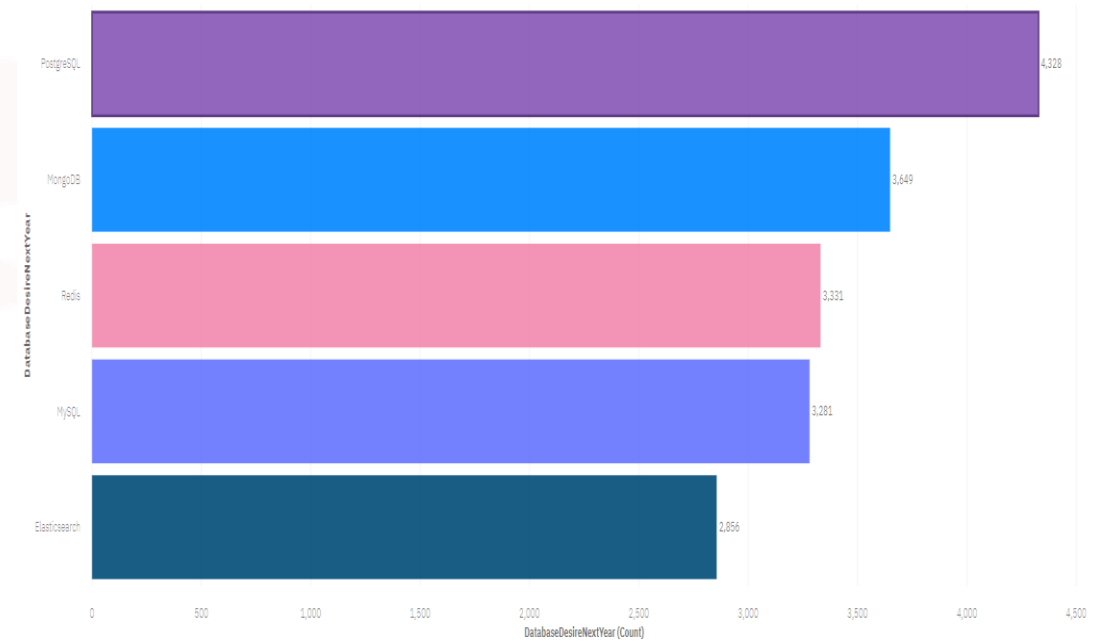
## Current Year

Top 5 Databases Worked With



## Next Year

Top 5 Databases Desired Next Year



# DATABASE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- PostgreSQL, MongoDB, and MySQL were observed to be the most prevalent in the current and future market

## Implications

- The job market would continue to see the usage of PostgreSQL, MongoDB, and MySQL in the future
- This could be due to reliability as well as ease of useability

# DASHBOARD

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## Link to Dashboard:

<https://dataplatform.cloud.ibm.com/dashboards/5a907172-8018-48e8-815b-2f98f23f21e9/view/4e07aa791faf2cc953f3d4e407992f0229312d0fe1bbd60086847b495d617097a9611b98c82a430bdf180367f6be100d9b>

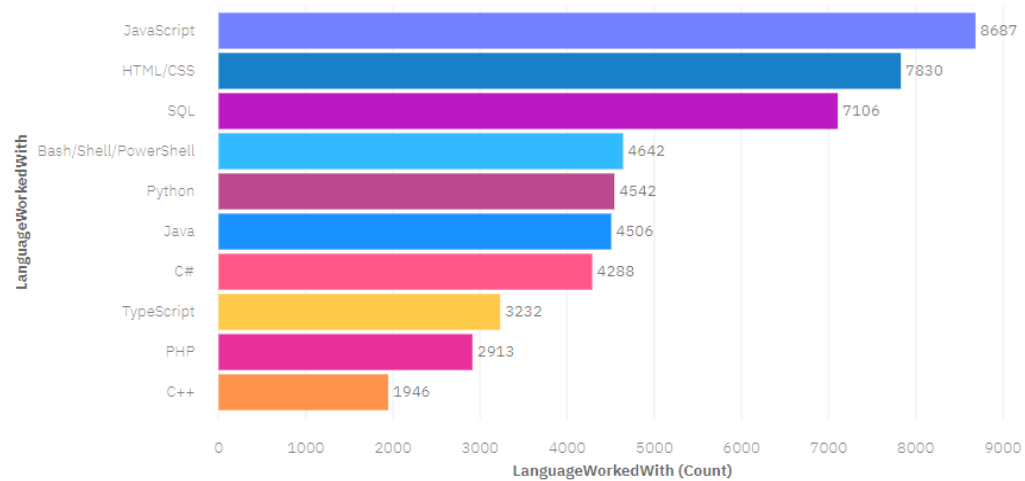
# DASHBOARD TAB 1

Current Technology Usage

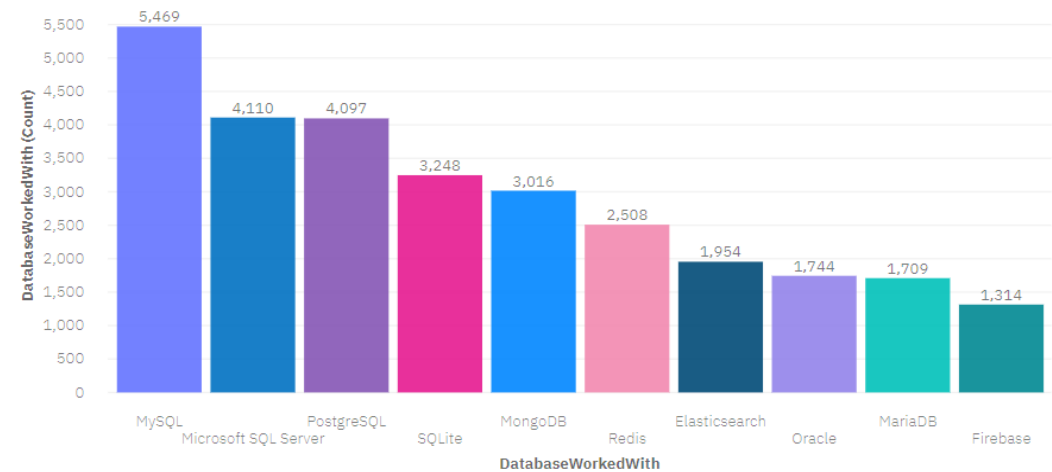
Future Technology Trend

Demographics

Top 10 Languages Worked With



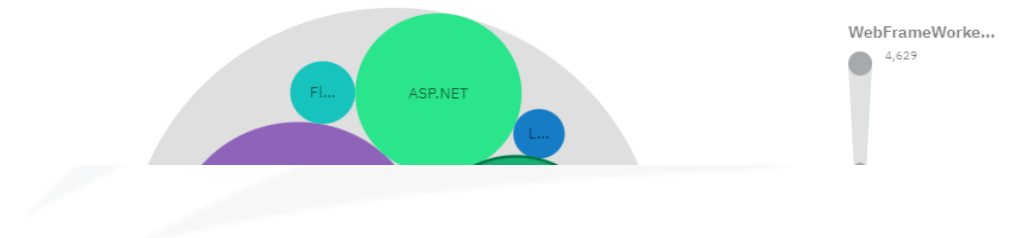
Top 10 Databases Worked With



Platforms Worked With



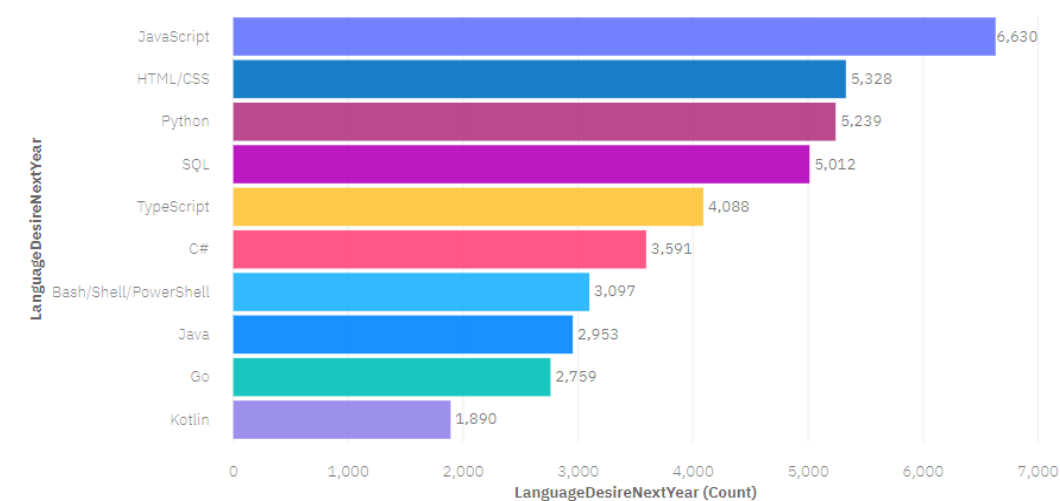
Top 10 Web Frames Worked With



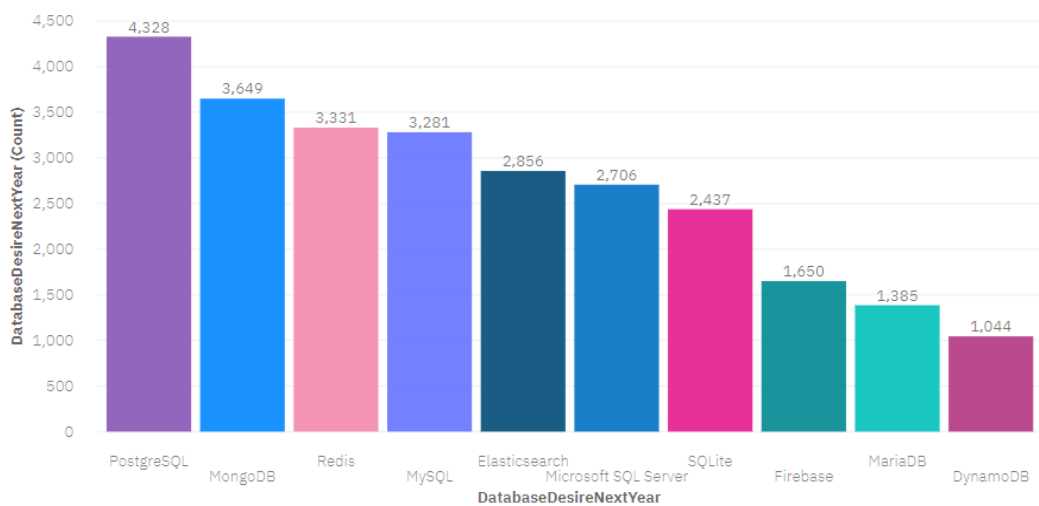
# DASHBOARD TAB 2

Current Technology Usage   **Future Technology Trend**   Demographics

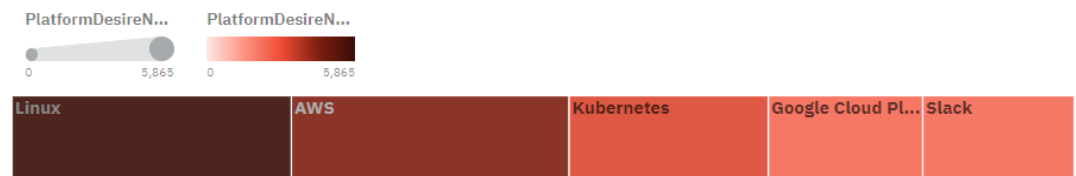
Top 10 Languages Desired Next Year



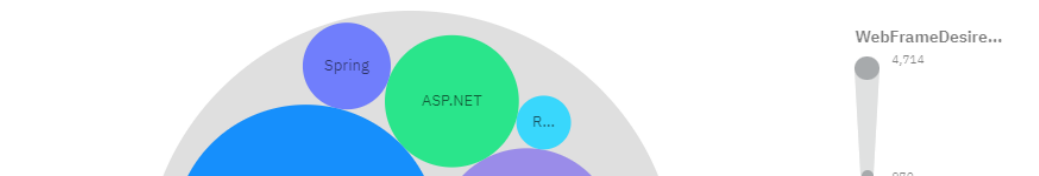
Top 10 Databases Desired Next Year



Platforms Desired Next Year



Top 10 Web Frames Desired Next Year



# DASHBOARD TAB 3

Current Technology Usage

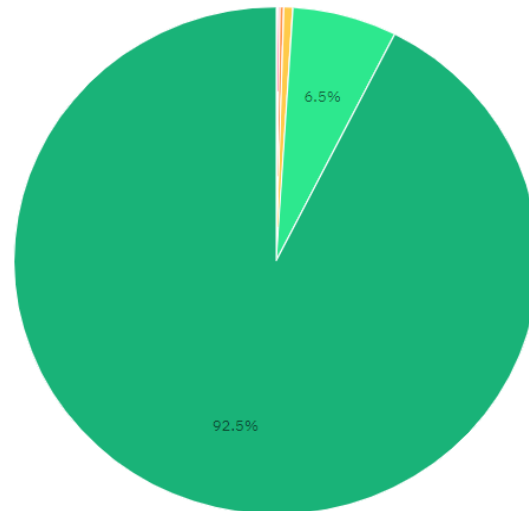
Future Technology Trend

Demographics

Respondent Classified by Gender

Gender

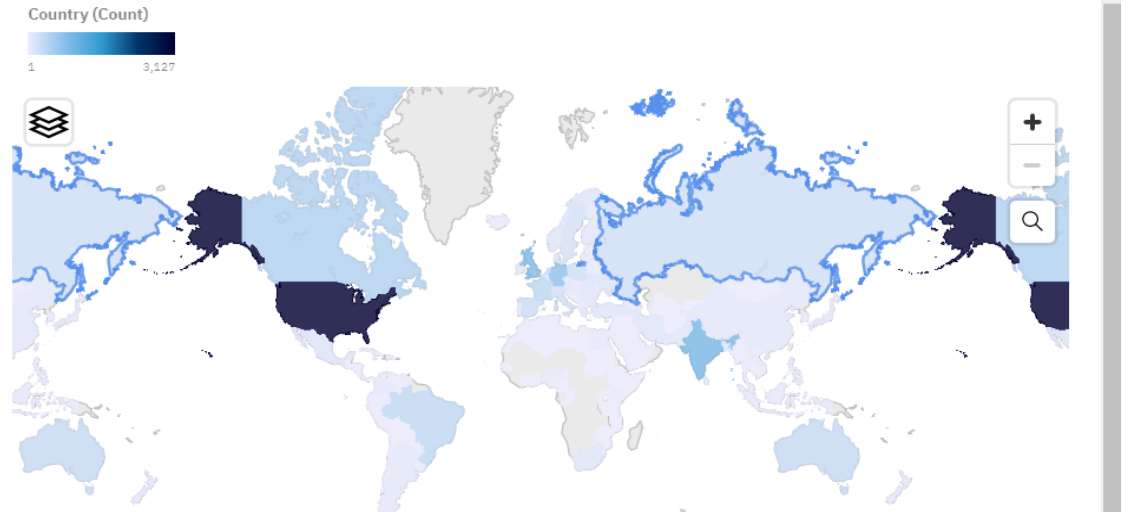
- (no value)
- Woman;Man;Non-...
- Woman;Man
- Woman;Non-binar...
- Man;Non-binary, g...
- Non-binary, gender...
- Woman
- Man



Respondent Count By Age



Respondent Count for Countries



Respondent Count by Gender, classified by Formal Education

EdLevel

- (no value)
- I never completed any formal ...
- Primary/elementary school
- Some college/university study ...
- Associate degree
- Master's degree (MA, MS, M.E...
- Professional degree (JD, MD, e...
- Bachelor's degree (BA, BS, B.E...
- Other doctoral degree (Ph.D, E...
- Secondary school (e.g. Americ...



# DISCUSSION

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- Languages:
  - Will JavaScript, HTML, Python, and SQL continue to be the dominant programming languages?
  - Can there be a resurgence of past languages?
- Databases:
  - Will MongoDB, PostgreSQL, and MySQL continue to be in the most demand in the future?
  - What could lead to a change?

# OVERALL FINDINGS & IMPLICATIONS

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## Findings:

- The technologies survey were dominated by the male population with a majority of them coming from the US
- Many of the surveyors were observed to have a Bachelor's and Master's Degree

## Implications:

- After observing the popularity amongst the youth, there maybe an overabundance of people with these skills in the future
- This maybe the same in other countries as well



# CONCLUSION

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- The tech sector has been observed to be made up of mostly males
- From the dashboard, it indicated that there is popularity amongst the 21 – 36 year olds
- The most popular languages to learn would be JavaScript, HTML, Python, and SQL
- The most popular databases learn would be PostgreSQL, MongoDB, and MySQL

# APPENDIX

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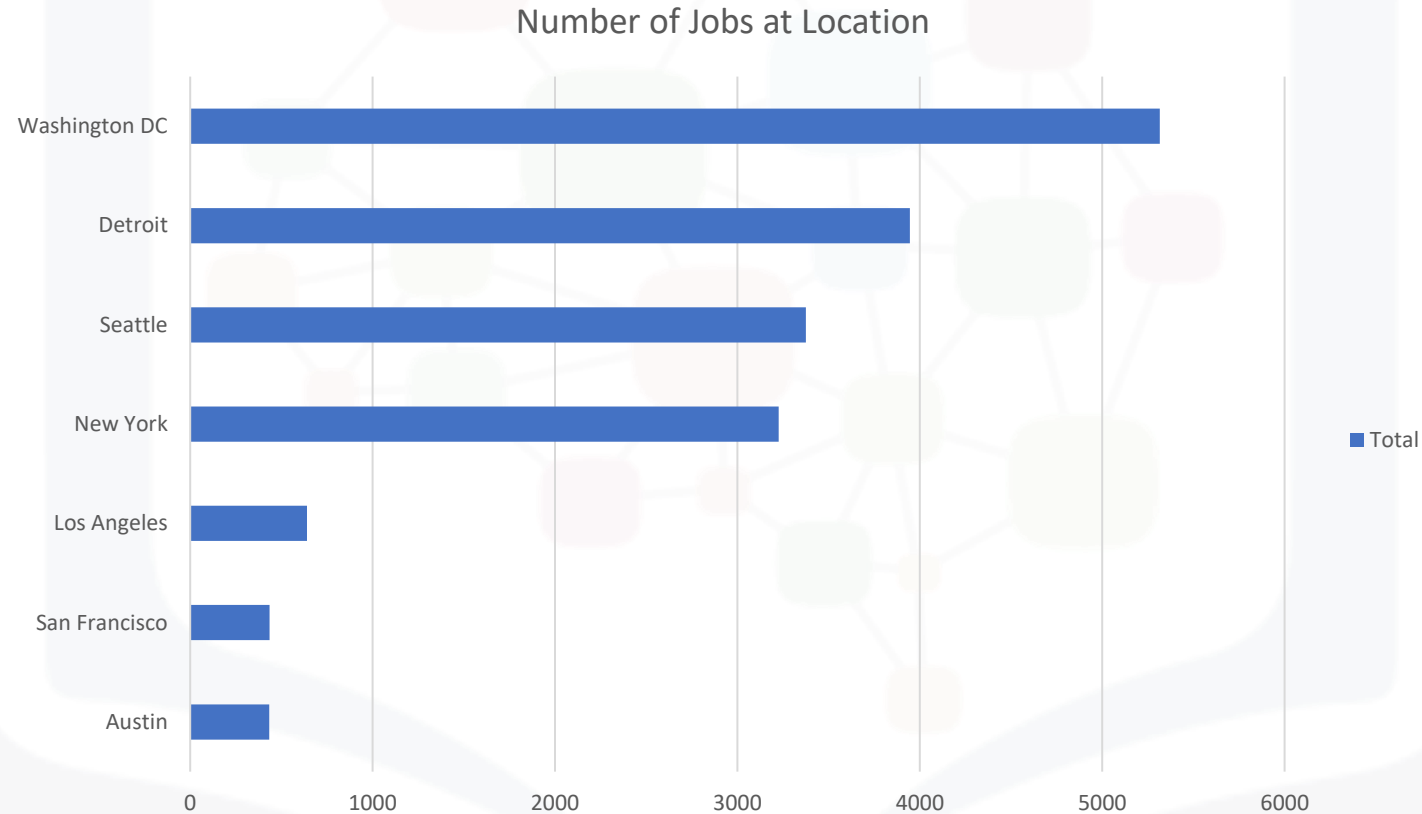
## Resources Used:

- Database taken from: Stack overflow blog under ODbI: Open Database License
- IBM Cognos dashboard were used for creating Dashboards

## Acknowledgement:

- Coursera

# JOB POSTINGS



# POPULAR LANGUAGES

