# Final Project

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# OUTLINE

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

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# EXECUTIVE SUMMARY

- The following slides will be presenting the findings of trends for this year's report on emerging skills.
- Top programming skills that are most in demand as well as insights and trends including:
  - What are the top programming languages in demand?
  - What are the top database skills in demand?
  - What are the popular IDEs?

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# INTRODUCTION

→ In this world advancing technologies are arising in a rapid rate and in order to track the use of each by developers is crucial to identify the top technologies to put them into focus for further advancing.

→ In 2019,A popular website used by developers known as Stack OverFlow conducted a survey on technology present and the trends among developers.

→ The purpose of this study is to analyze Stack Overflow's Survey to visualize its findings.

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# METHODOLOGY

**Data Collection**

- Collecting Data Using APIs
- Collecting Data Using Webscraping
- Exploring Data

**Data Wrangling**

- Finding Missing Values
- Finding Duplicates
- Normalizing Data

**Exploratory Data Analysis**

- Distribution
- Outliers
- Correlation

**Data Visualization**

- Visualizing Distribution of Data
- Relationship
- Composition

**Dashboard Creation**

- Dashboards

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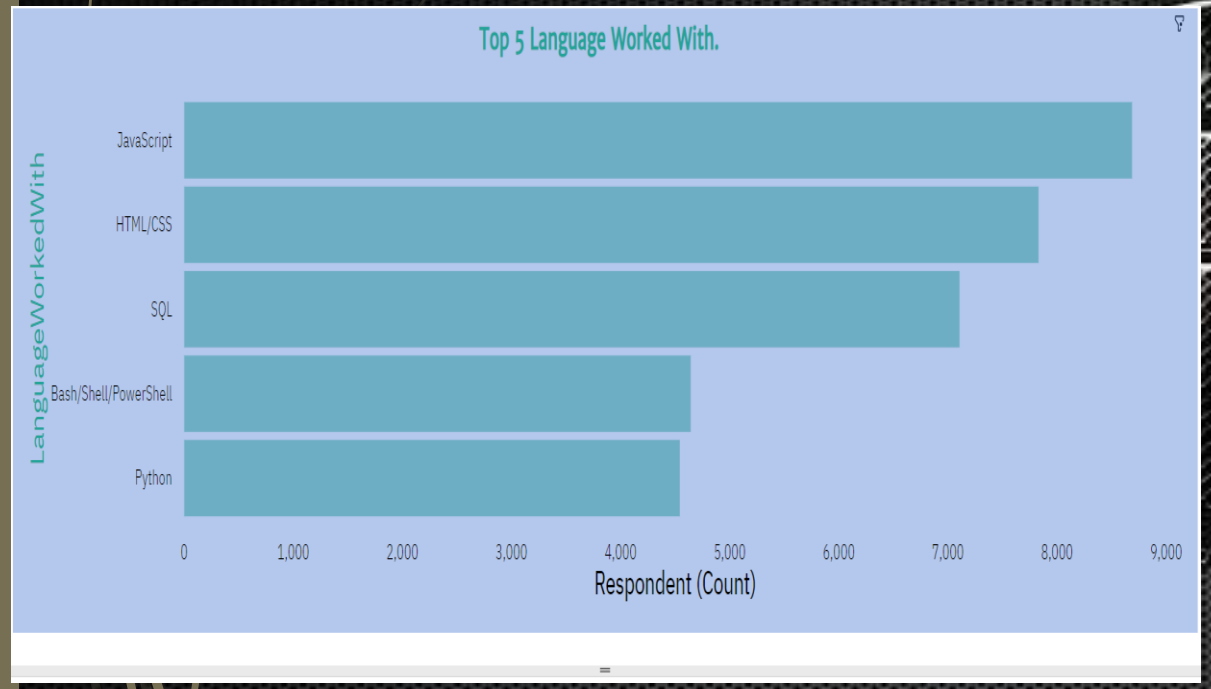
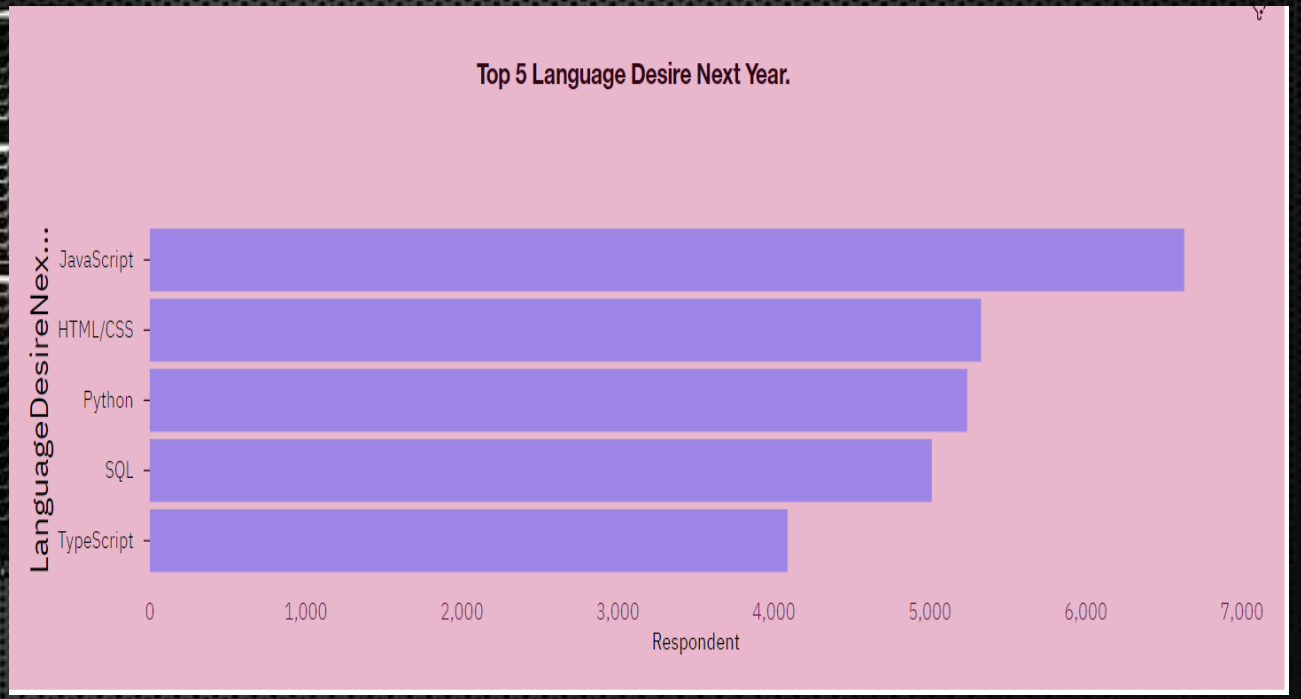
# RESULTS

# PROGRAMMING LANGUAGE TRENDS

## Current Year




## Next Year

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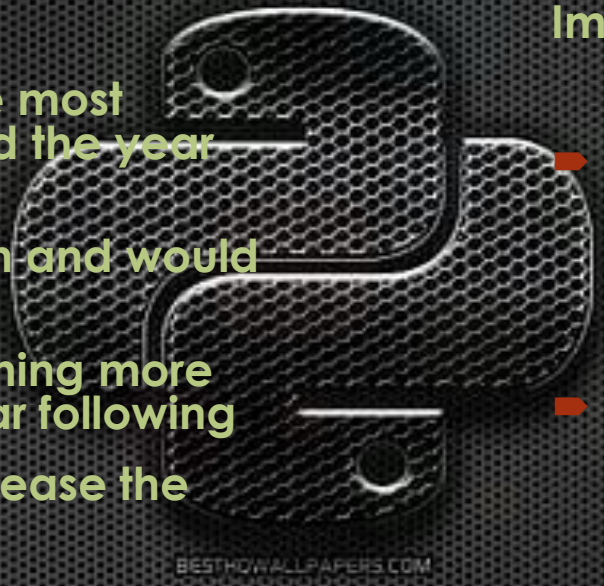
# PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

## Findings

- Javascript and HTML/CSS are the most popular in 2019 and will stay solid the year following
- • SQL had been very well known and would be still in the following year
- • python and type script are gaining more spotlights and increasing the year following
- Powershell/bash is ought to decrease the year following




## Implications

- Web development is still in high demand, and Javascript and HTML/CSS remain the dominant languages—however, TypeScript may catch up in the future.
- • SQL remains the preferred language for big data storage and querying—it's not likely to go away anytime soon.
- • Python's rising popularity likely reflects the growth of AI and ML work

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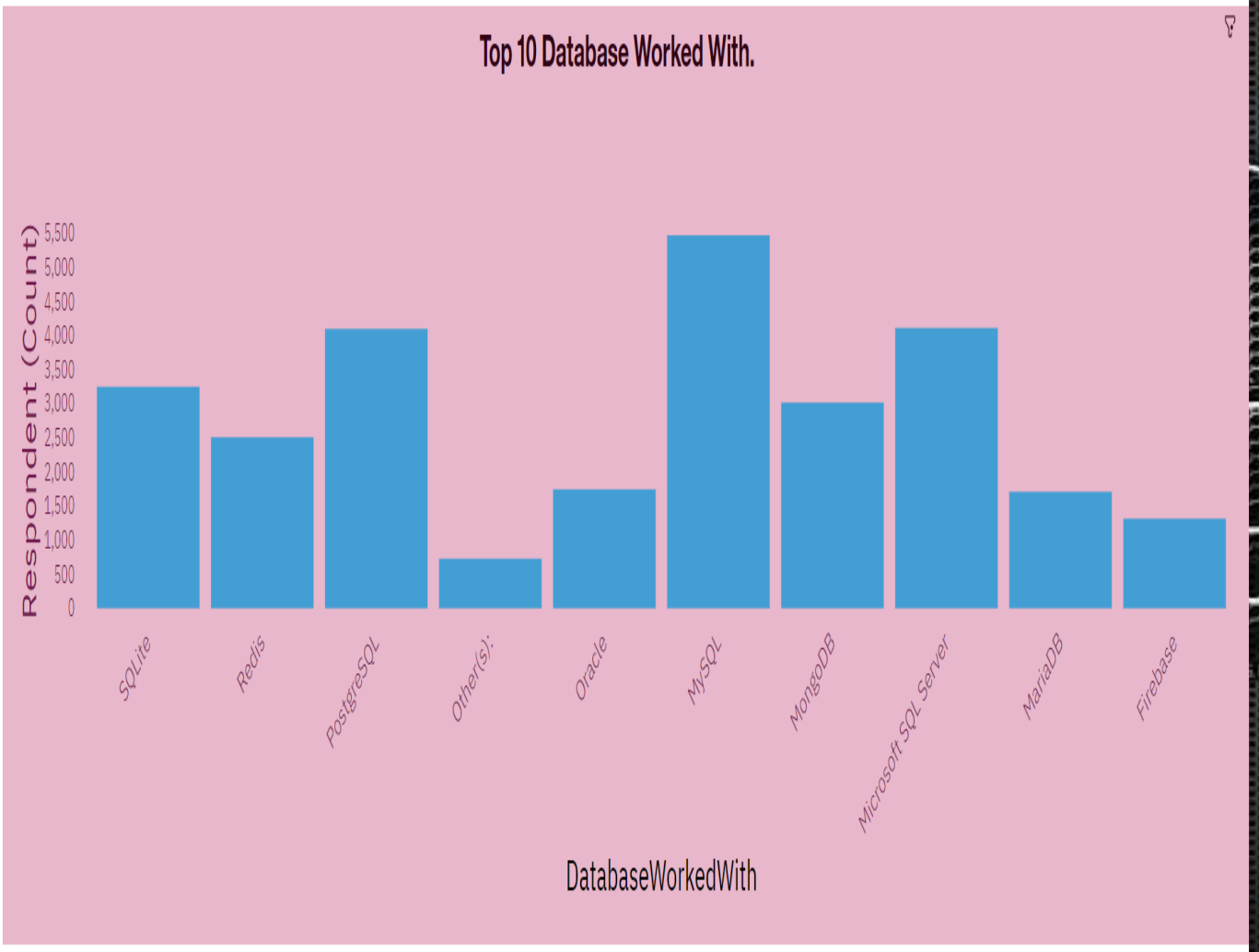
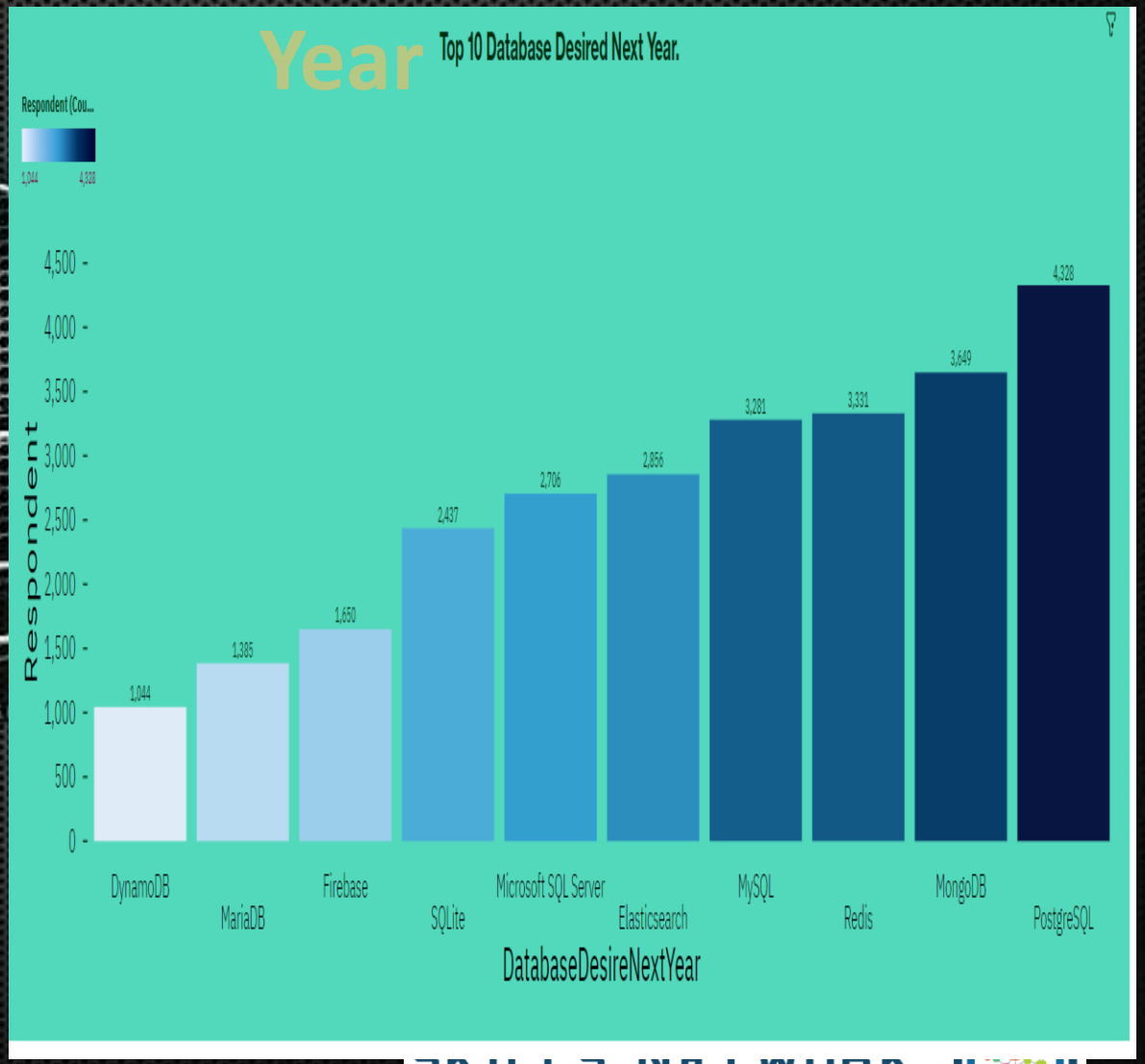
# top 10 databases for current year and future year.

## Current Year




## Next Year

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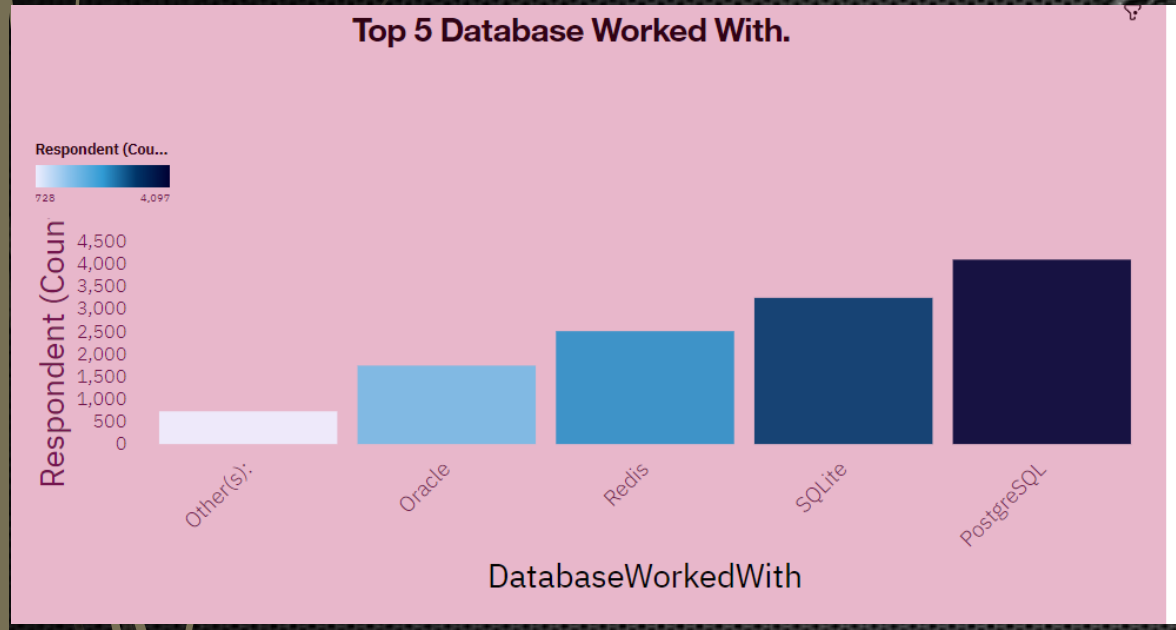
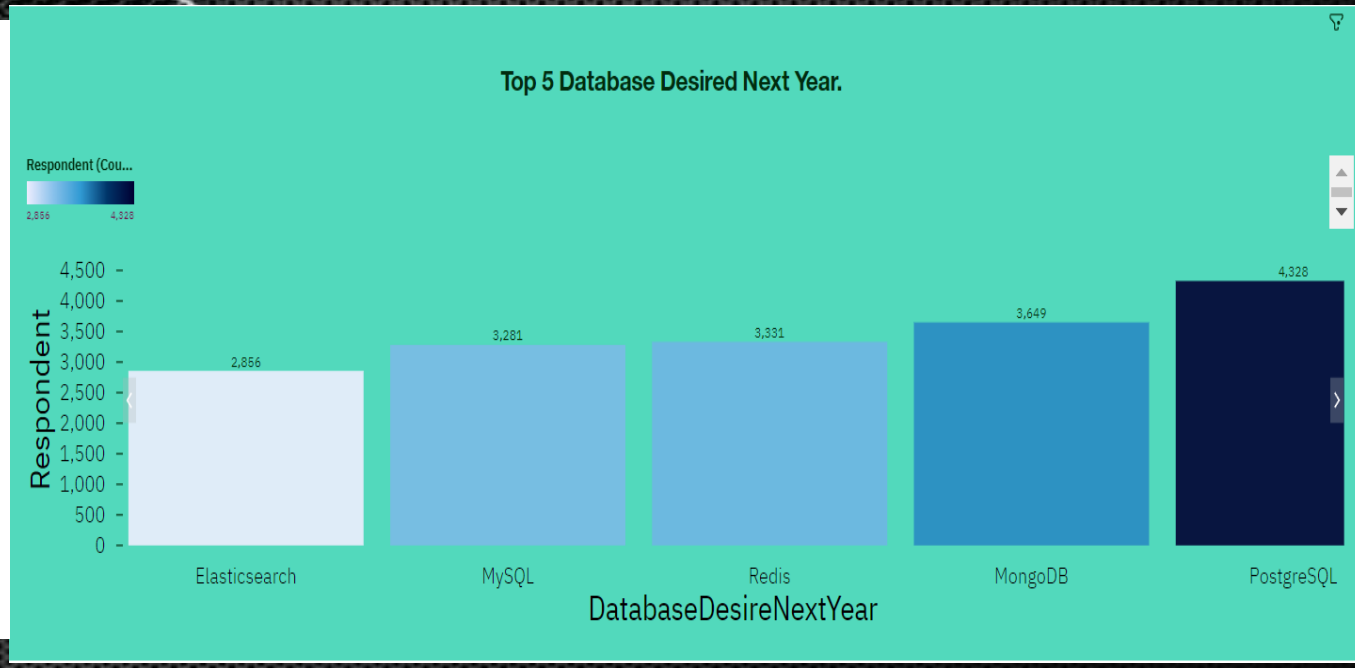
# DATABASE TRENDS

## Current Year




## Next Year

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# DATABASE TRENDS - FINDINGS & IMPLICATIONS

**Findings**

SQL database programs were the most popular in 2019, with MySQL in the lead.

PostgreSQL is gaining popularity over other SQL database programs, and it was the overall most desired database for the next year.

MongoDB was popular in 2019 and gaining interest.

Increasing interest in Elasticsearc

## Implications

- There appears to be increasing developer preference toward open-source database programs.
- NoSQL database programs are gaining popularity, which likely reflects a growing need to handle nonrelational and unstructured data.
- Current and aspiring data analysts should develop competence in NoSQL in addition to SQL database programs.

# DASHBOARD

https://eu-gb.dataplatform.cloud.ibm.com/dashboards/f9c564b2-dc45-49ea-ae35-ae1d3680e5be/view/0463c93a13960e9361e1eee40799290329312 40bb2bb820587d07b490e642397f3601093c82c485bde160764f5eb1259cb

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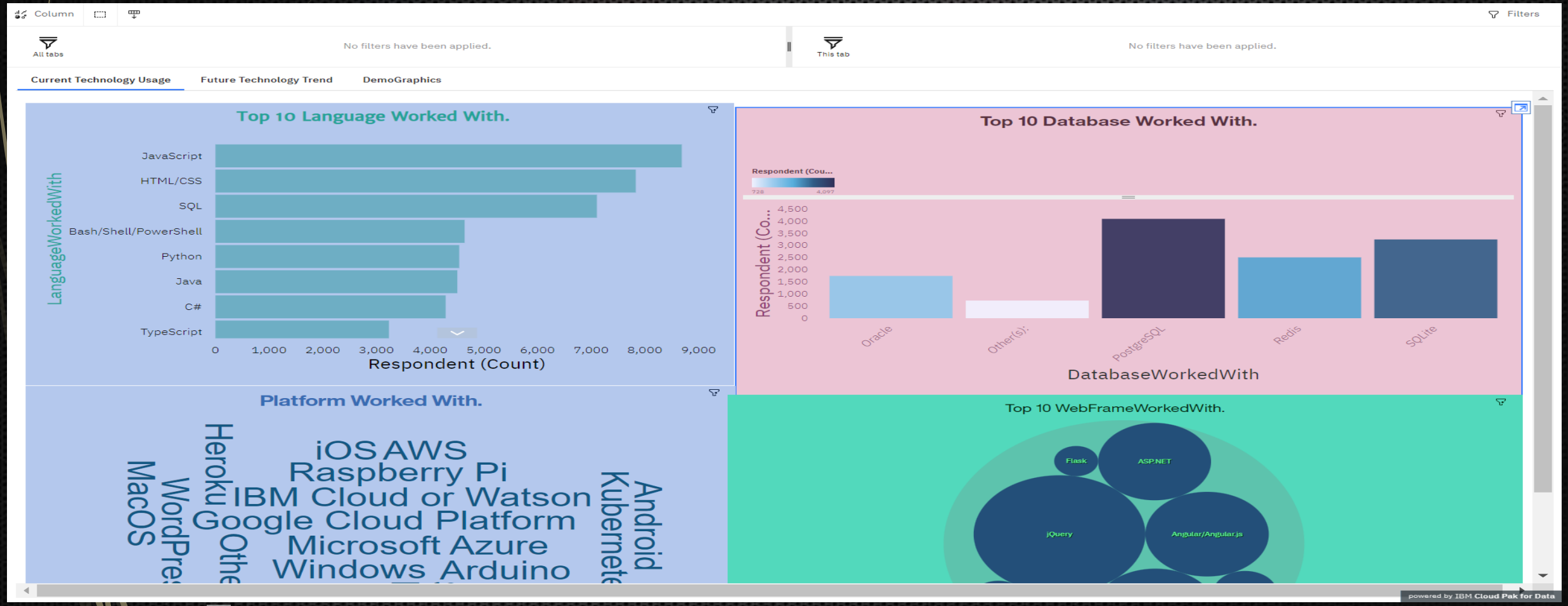
# Current Technology Usage

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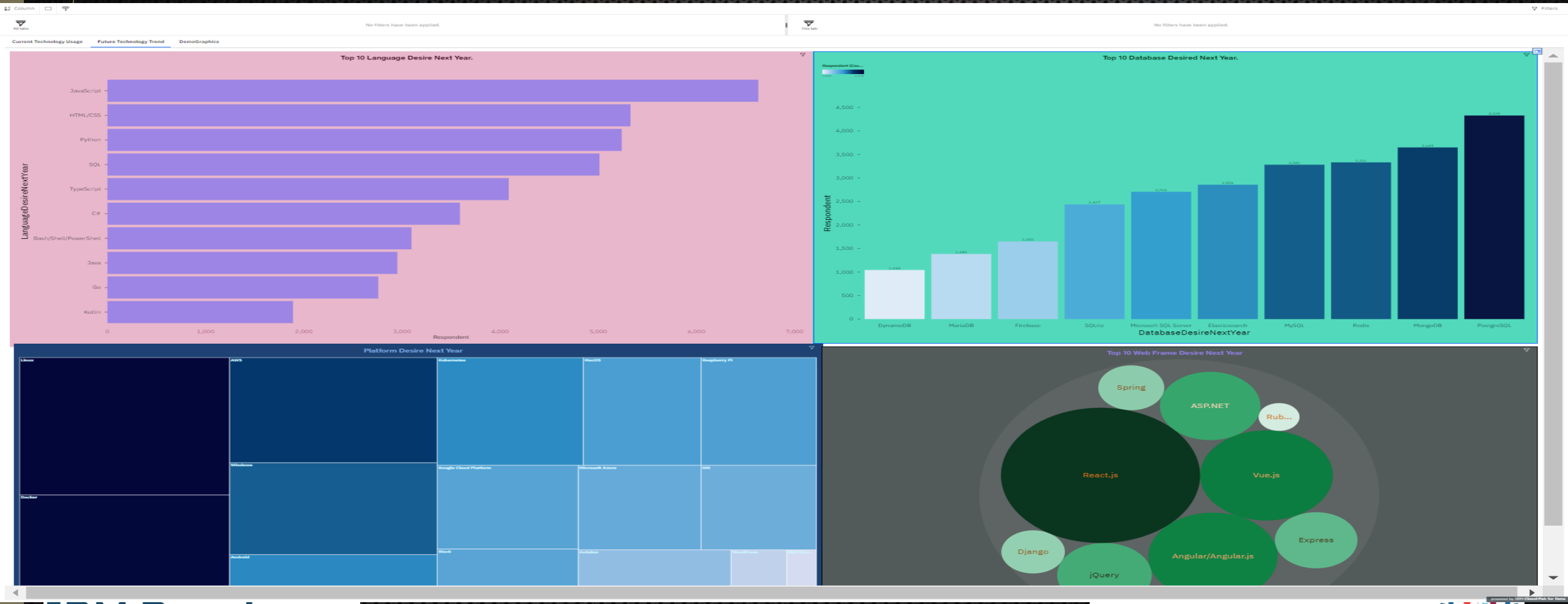
# Future Technology Trend

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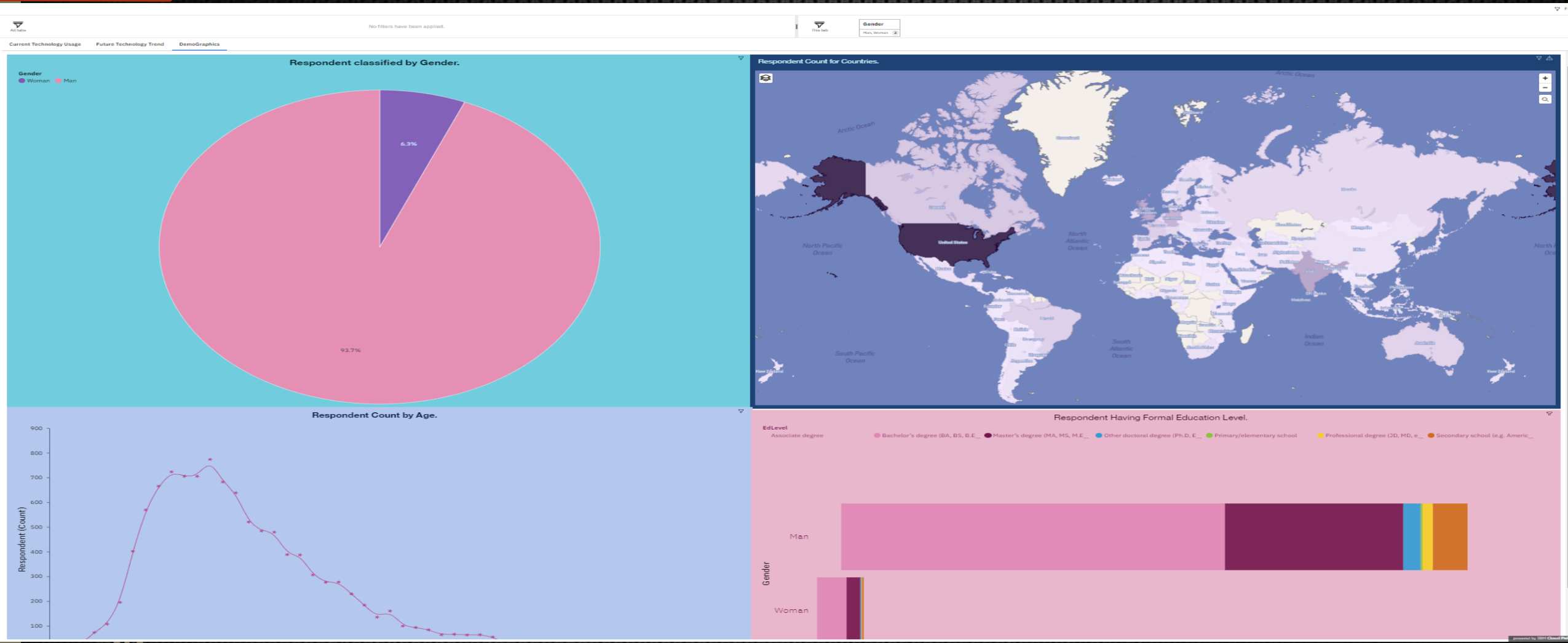
# Demographics

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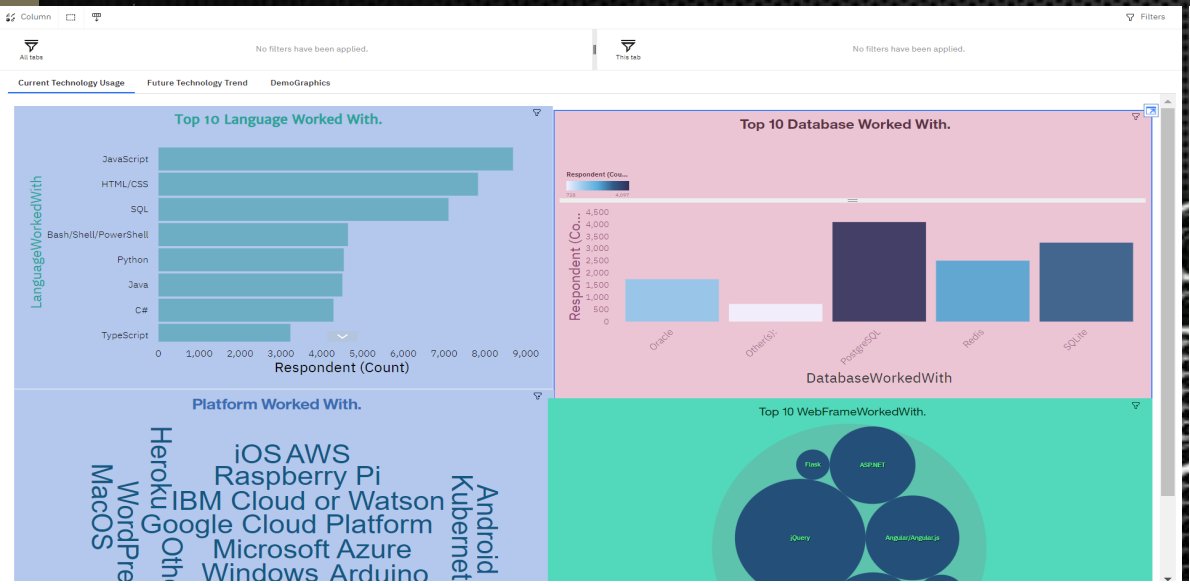
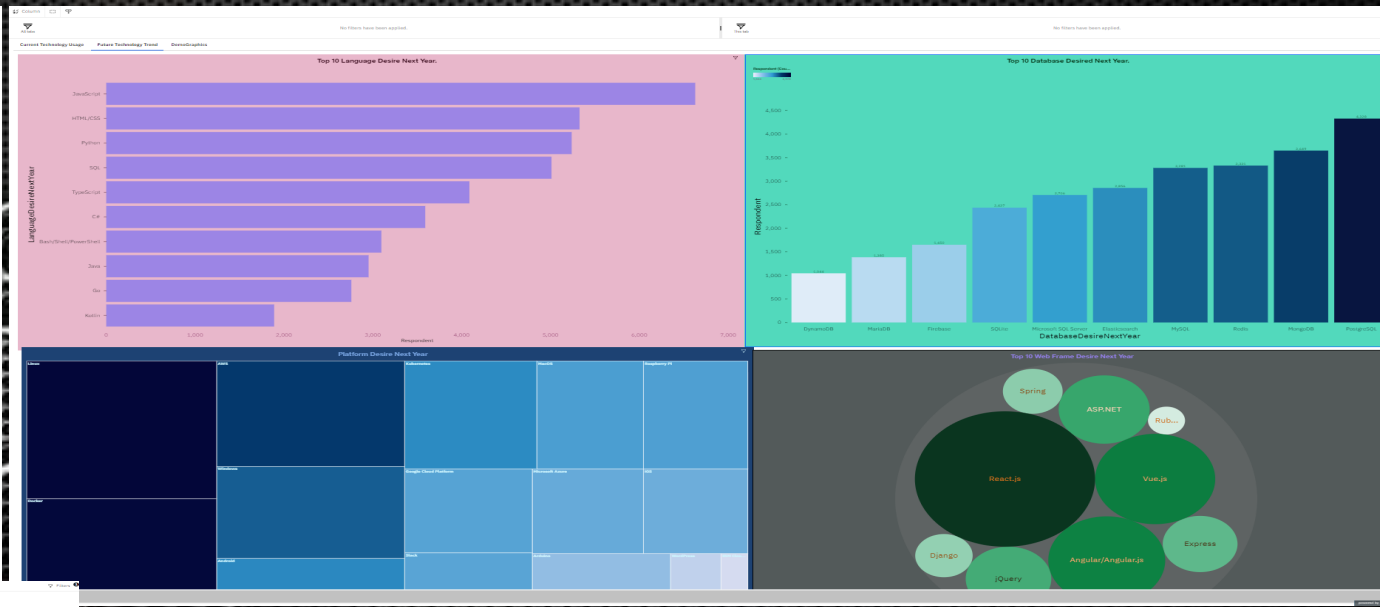
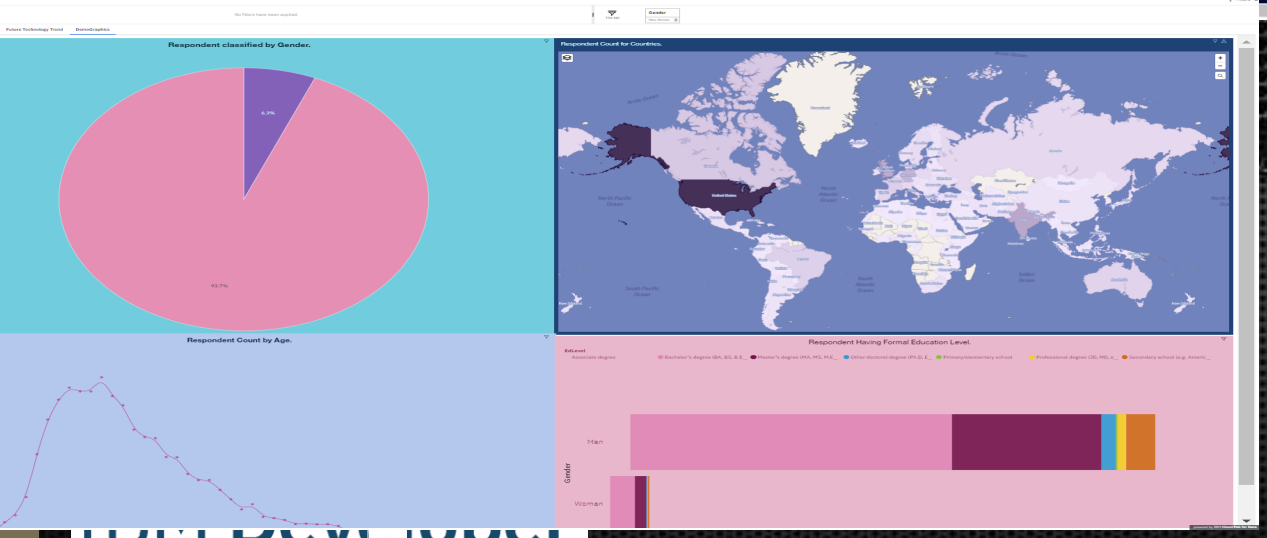
# Current Technology Usage




# Future Technology Trend




# Demographics

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# DISCUSSION

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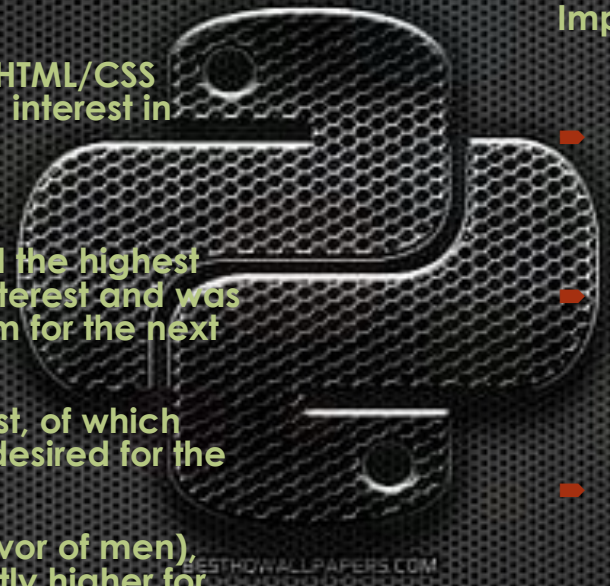
# OVERALL FINDINGS & IMPLICATIONS

Findings

- High usage and interest in Javascript and HTML/CSS remain high usage. There's also increasing interest in Typescript.
- Increasing interest in Python.
- High usage and interest in SQL. MySQL had the highest usage in 2019, but PostgreSQL is gaining interest and was the overall most desired database program for the next year
- NoSQL database programs gaining interest, of which MongoDB was the most used in 2019 and desired for the next year.
- A severe gender representation gap (in favor of men), despite median compensation being slightly higher for women.
- • Technology divide between countries.



Implications

- Web development is still in high demand. Current and prospective developers may consider picking up Typescript in addition to Javascript and HTML/CSS.
- With the growing need to handle big data and perform AI and ML work, data professionals should continue to enhance SQL competence but also enhance competence with NoSQL database programs and Python.
- Businesses need to adapt to changing technology preferences, especially in terms of talent acquisition and development.
- Policy makers, educators, and organizations should work to minimize the gender representation gap in addition to the technology divide between countries.

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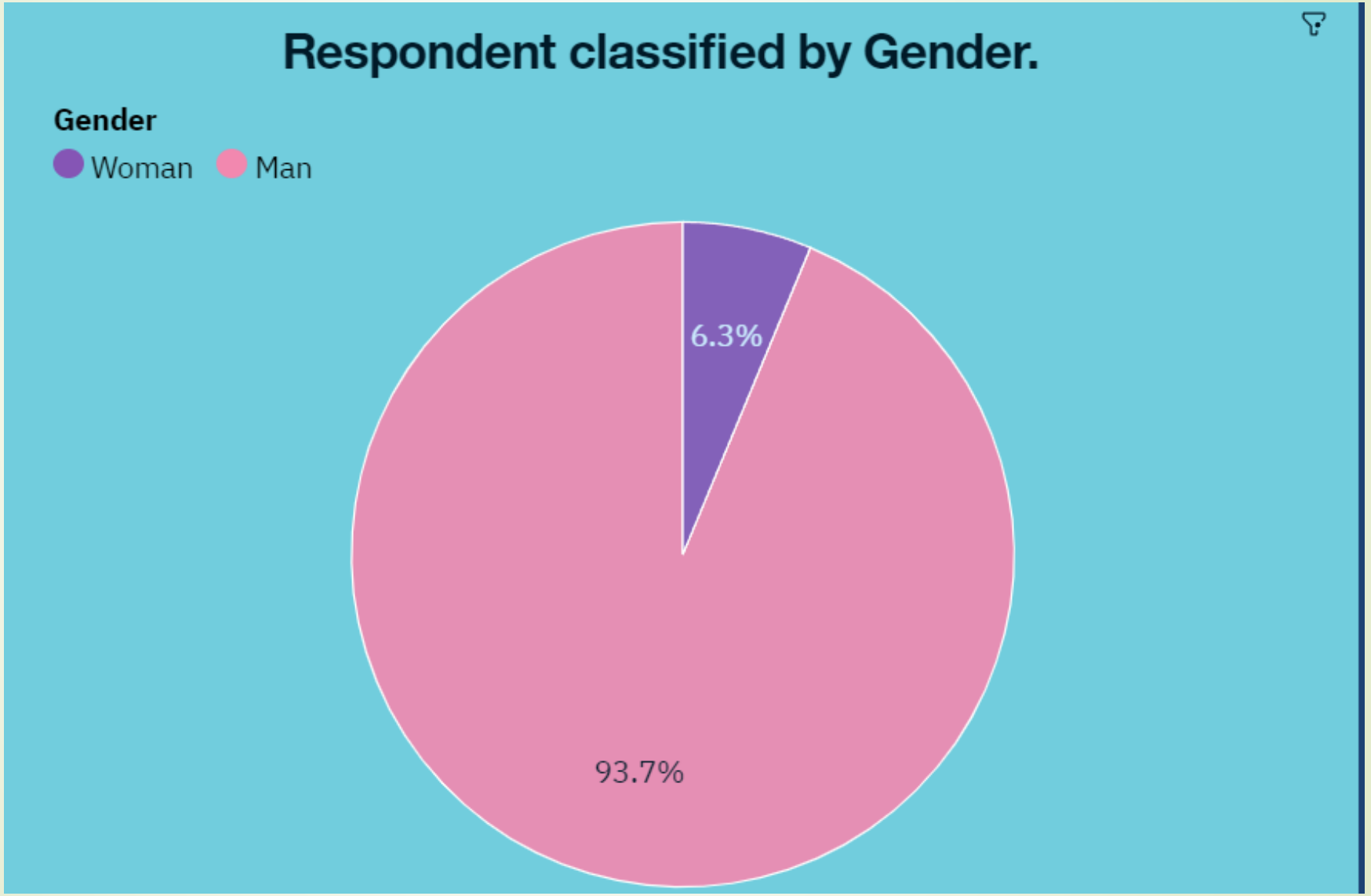
# CONCLUSION

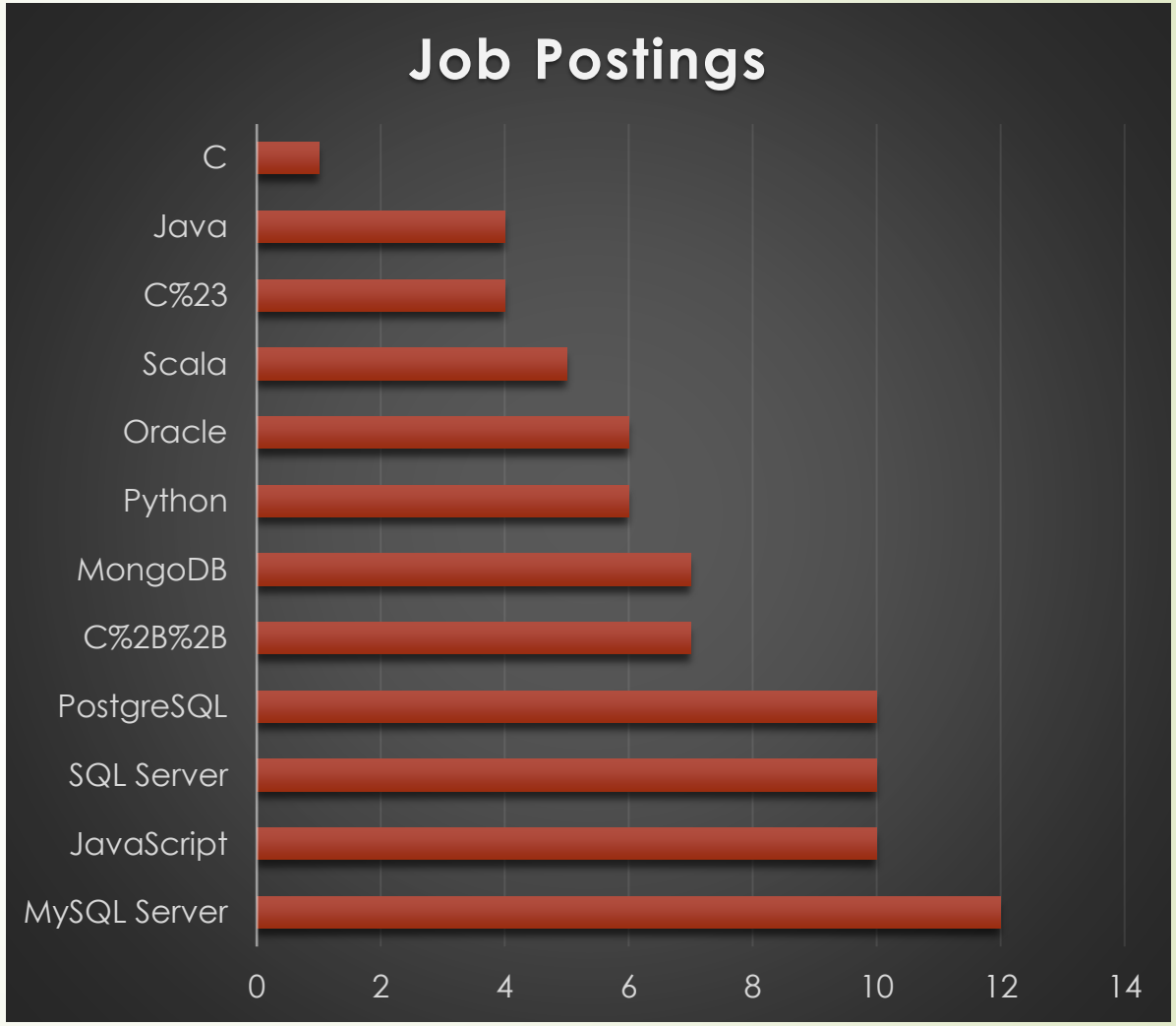
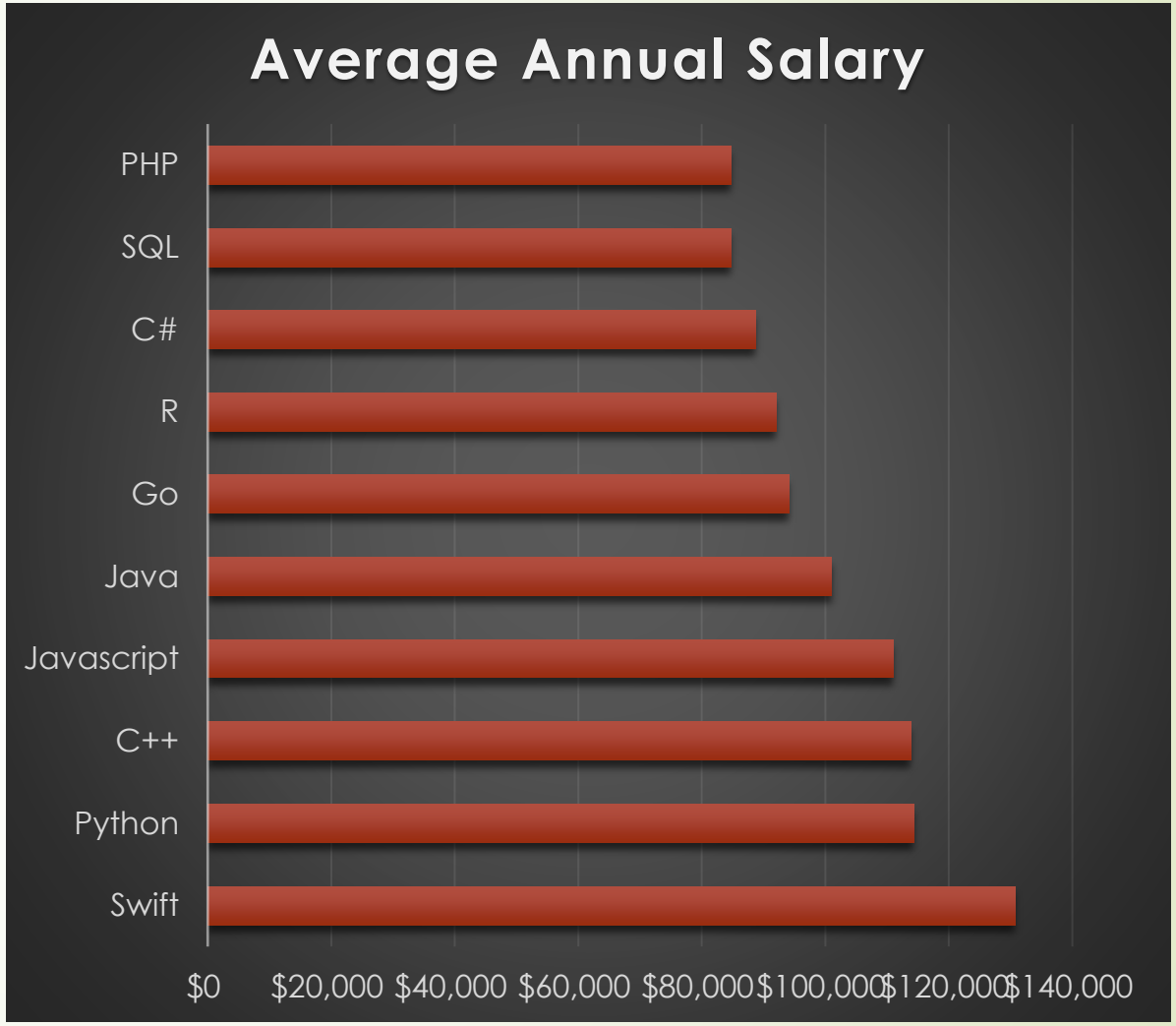
A subset of data collected as part of the 2019 Stack Overflow Developer Survey was examined. The findings yielded numerous insights into the technologies most used and desired by developers in addition to the developer demographic.

These insights should be particularly relevant for current and prospective developers aiming to remain competitive, businesses aiming to upskill their talent, educators in the field, and policy makers aiming to address gender and economic issues.

# APPENDIX



# JOB POSTINGS



# POPULAR LANGUAGES