



# Future Technology Trend 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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- Analyzing the data to find insights and trends, such as the top programming languages, the top database skills, and the popular IDEs
- Gathering information about job demands in different locations and industries
- Creating a dashboard that presents current skills, future trend skills, and demographics in one place

# INTRODUCTION

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- Proficiency in programming is essential for staying updated with advancing technology, especially in the field of IT solutions and consulting
- The focus problem:
  - What technology skills are currently important?
  - What technology skills will be important in the future?

# METHODOLOGY

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- Data Collection
  - API (Requests), Web-Scrap (BeautifulSoup), Explore dataset (Pandas)
- Data Wrangling
  - Pandas & Numpy
- Exploratory Data Analysis
  - Pandas, Numpy, Matplotlib, Pyplot, Seaborn
- Data Visualization
  - Pandas, Numpy, Matplotlib, Pyplot, Seaborn, Sqlite3
- Dashboard Creation
  - IBM Cognos Analytics
- Presenting of Findings
  - Microsoft Power Point

# RESULTS

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We start by cleaning the data and then use statistical methods to analyze it. Finally, we summarize the findings to create dashboards that show current and future trends in technology

# PROGRAMMING LANGUAGE TRENDS

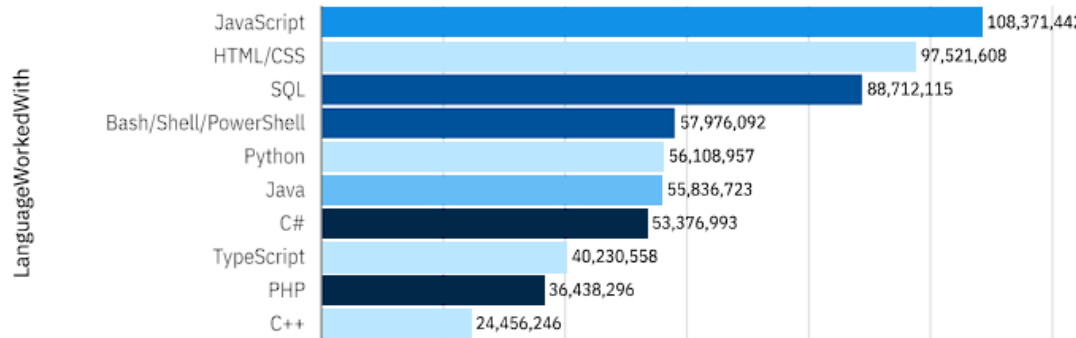
## Current Year

### Current Technology Usage

#### Top 10 LanguageWorkedWith

##### LanguageWorkedWith

● Bash/Shell/PowerShell ● C# ● C++ ● HTML/CSS  
● Java ● JavaScript ● PHP ● Python



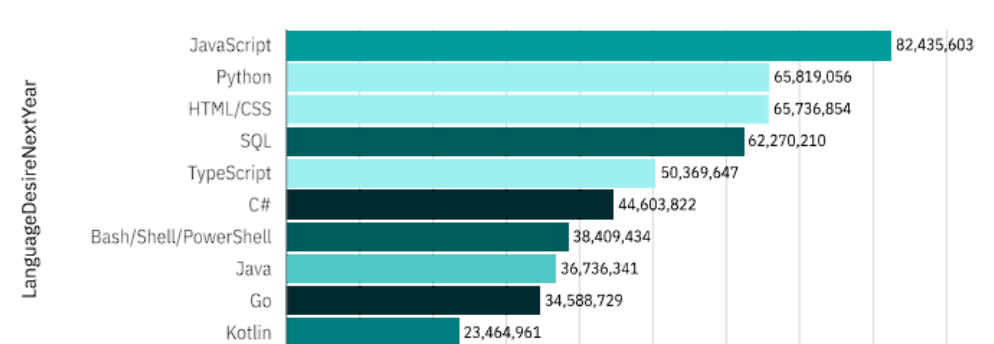
## Next Year

### Future Technology Trend

#### Top 10 LanguageDesireNextYear

##### LanguageDesireNextYear

● Bash/Shell/PowerShell ● C# ● Go ● HTML/CSS  
● Java ● JavaScript ● Kotlin ● Python  
● SQL ● TypeScript



# PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- JavaScript is the most popular language in the current year, followed by HTML/CSS and SQL
- Python is expected to become the second most popular programming language after JavaScript in the future.

## Implications

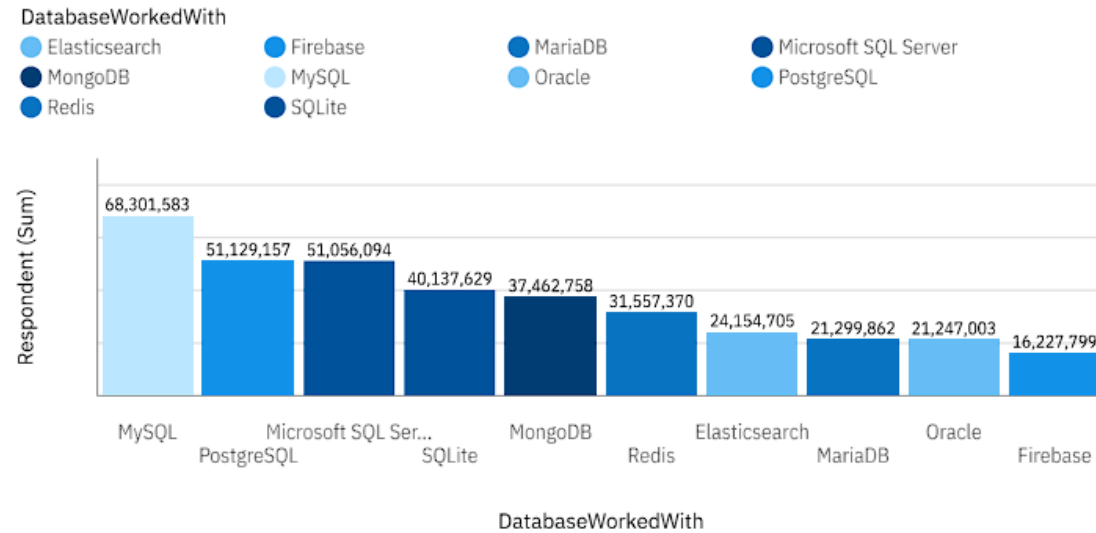
- JavaScript is still in the trend
- People are more interested in Python



# DATABASE TRENDS

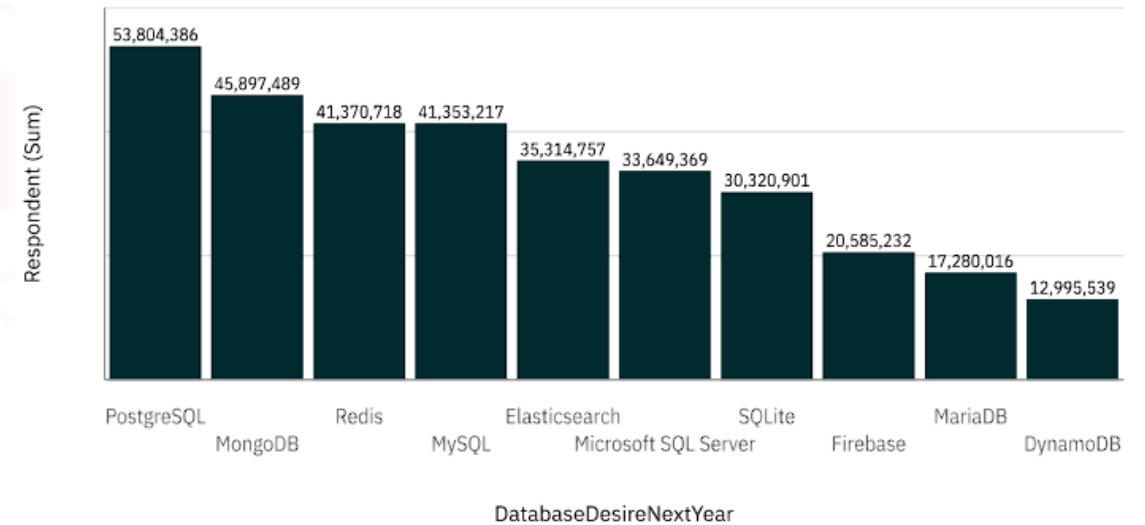
## Current Year

Top 10 DatabaseWorkedWith



## Next Year

Respondent by DatabaseDesireNextYear



# DATABASE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- It is expected that MySQL will be replaced by PostgreSQL, MongoDB, and Redis, potentially dropping to fourth place in the future
- Redis and Elasticsearch are expected to replace Microsoft SQL Server and SQLite

## Implications

- PostgreSQL is still in the trend
- People are more interested in MongoDB

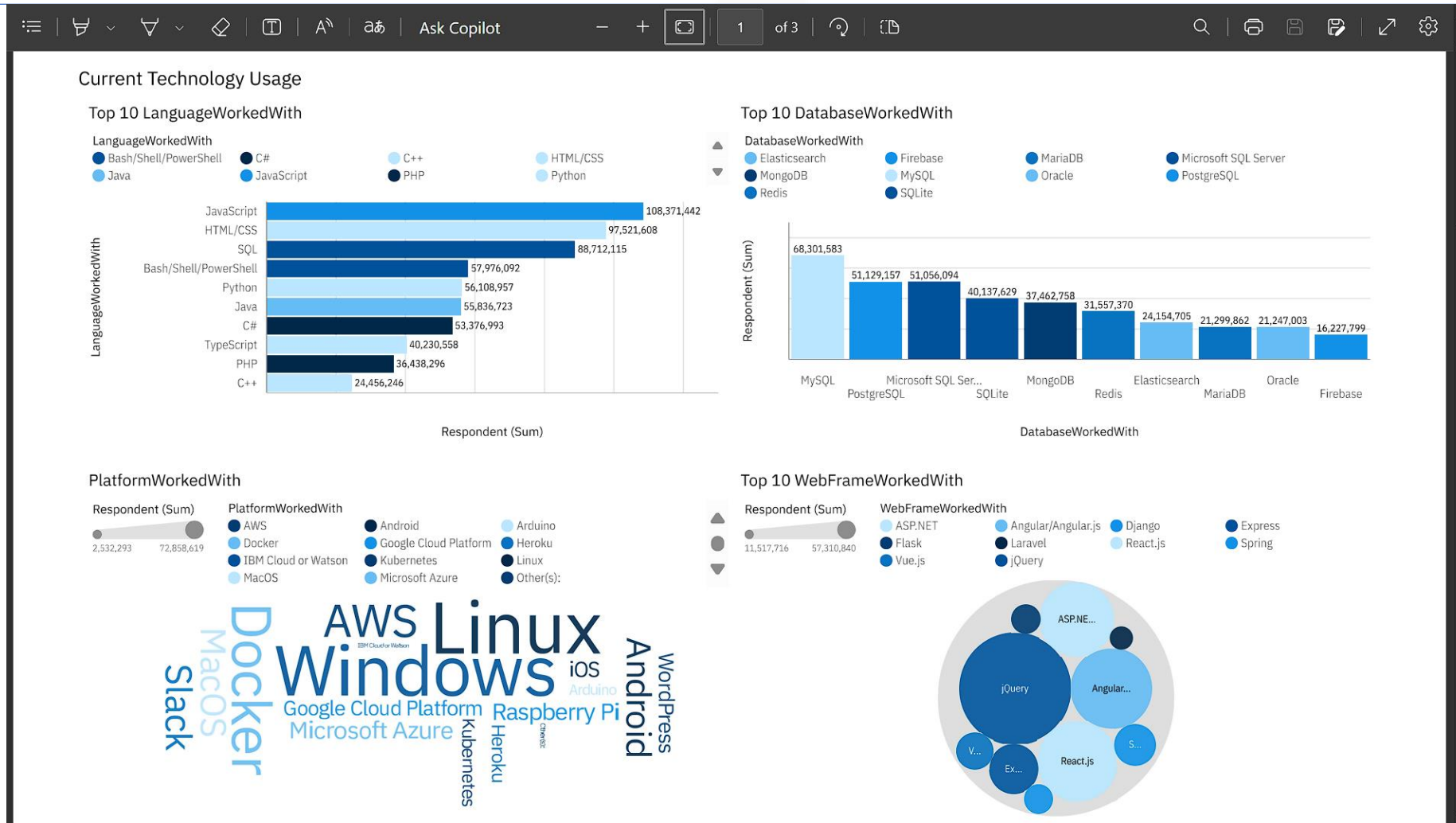
# DASHBOARD

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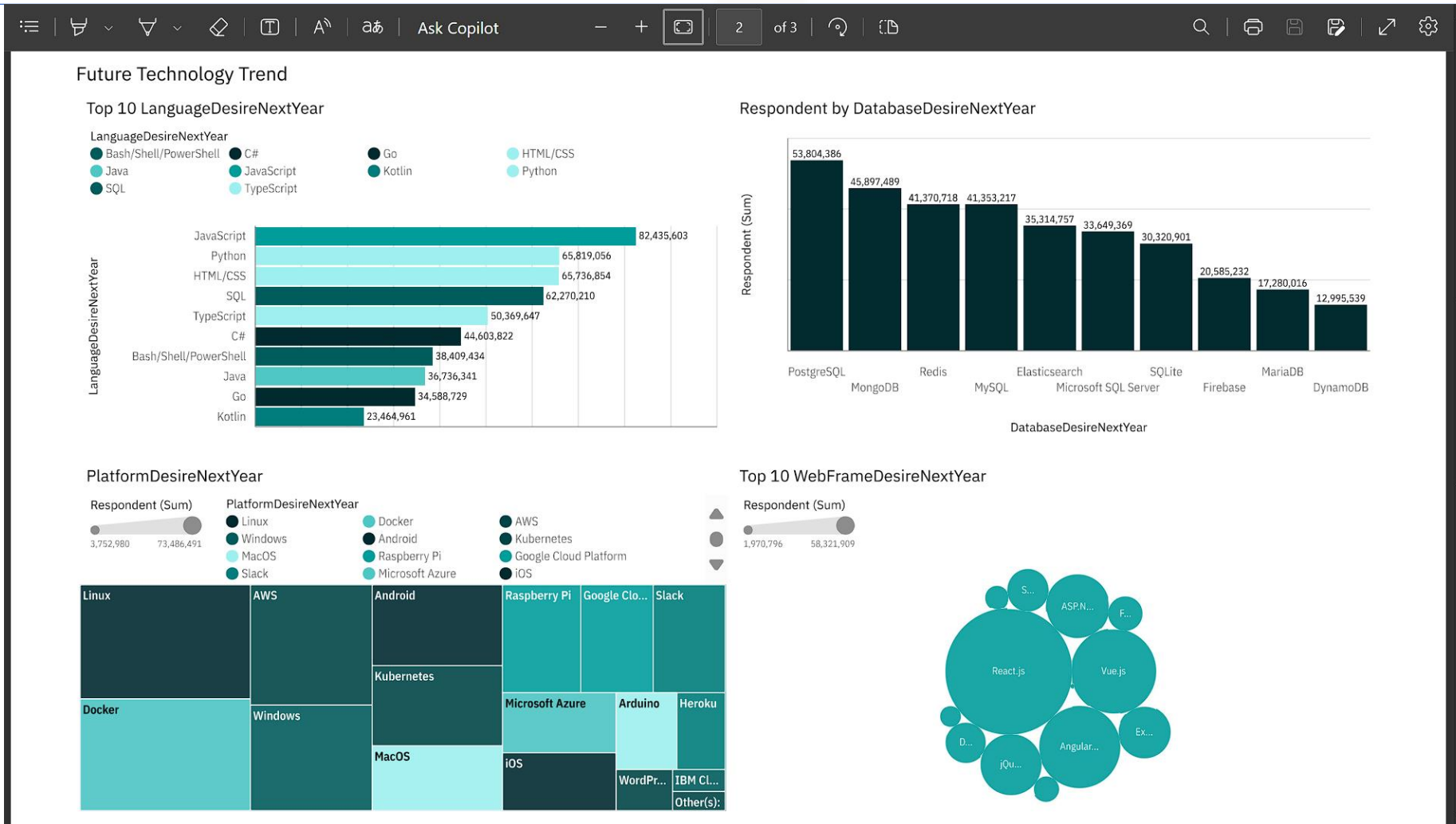


[Link IBM Cognos Dashboard Capstone Project](#)

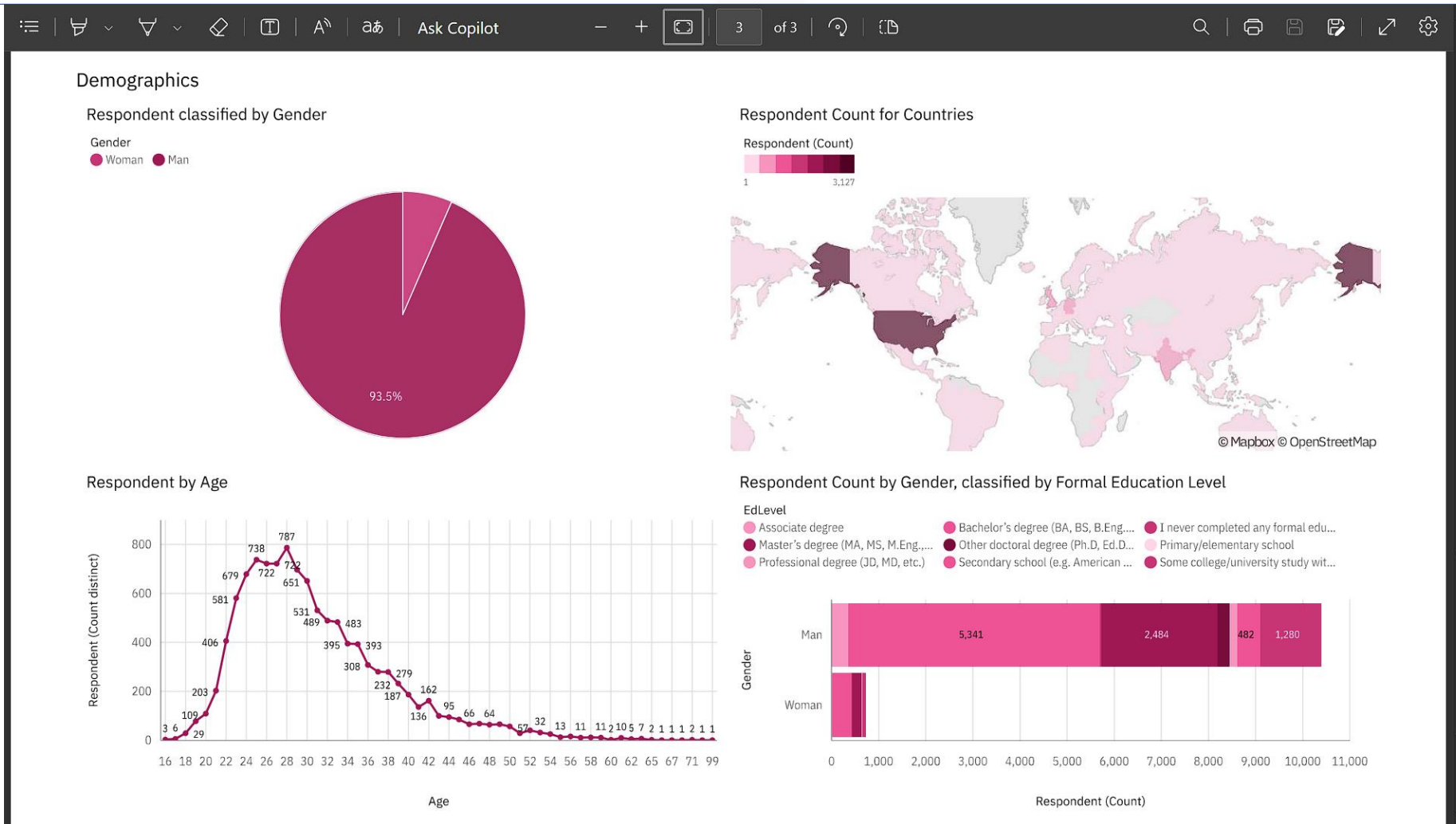
# DASHBOARD TAB 1



# DASHBOARD TAB 2



# DASHBOARD TAB 3



# DISCUSSION

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- What is the main value of HTML/CSS that is still necessary?
- Why are SQL Servers still the most interesting option for the future?

# OVERALL FINDINGS & IMPLICATIONS

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## Findings

- Next year, JavaScript and Python will still be ranked as the top two programming languages
- PostgreSQL is ranked first over MySQL, with Microsoft SQL Server and SQLite trailing behind
- Linux is the most widely used platform, and it is expected that Docker will replace Windows
- Men responded more than women. The highest number of respondents was in the United States. Most respondents were around 28 years old and had a bachelor's degree.

## Implications

- JavaScript and PostgreSQL are still popular
- People are more interested in Python and MongoDB
- Docker is just as popular as Linux



# CONCLUSION

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Next year, JavaScript and Python will still be the most popular programming languages. PostgreSQL is ranked higher than MySQL, followed by Microsoft SQL Server and SQLite. Linux is used more widely than any other platform, and Docker is expected to replace Windows. There were more male respondents than female. The highest number of respondents came from the United States, mostly around 28 years old with a bachelor's degree. JavaScript and PostgreSQL are still popular, and there is growing interest in Python and MongoDB. Docker is as popular as Linux.

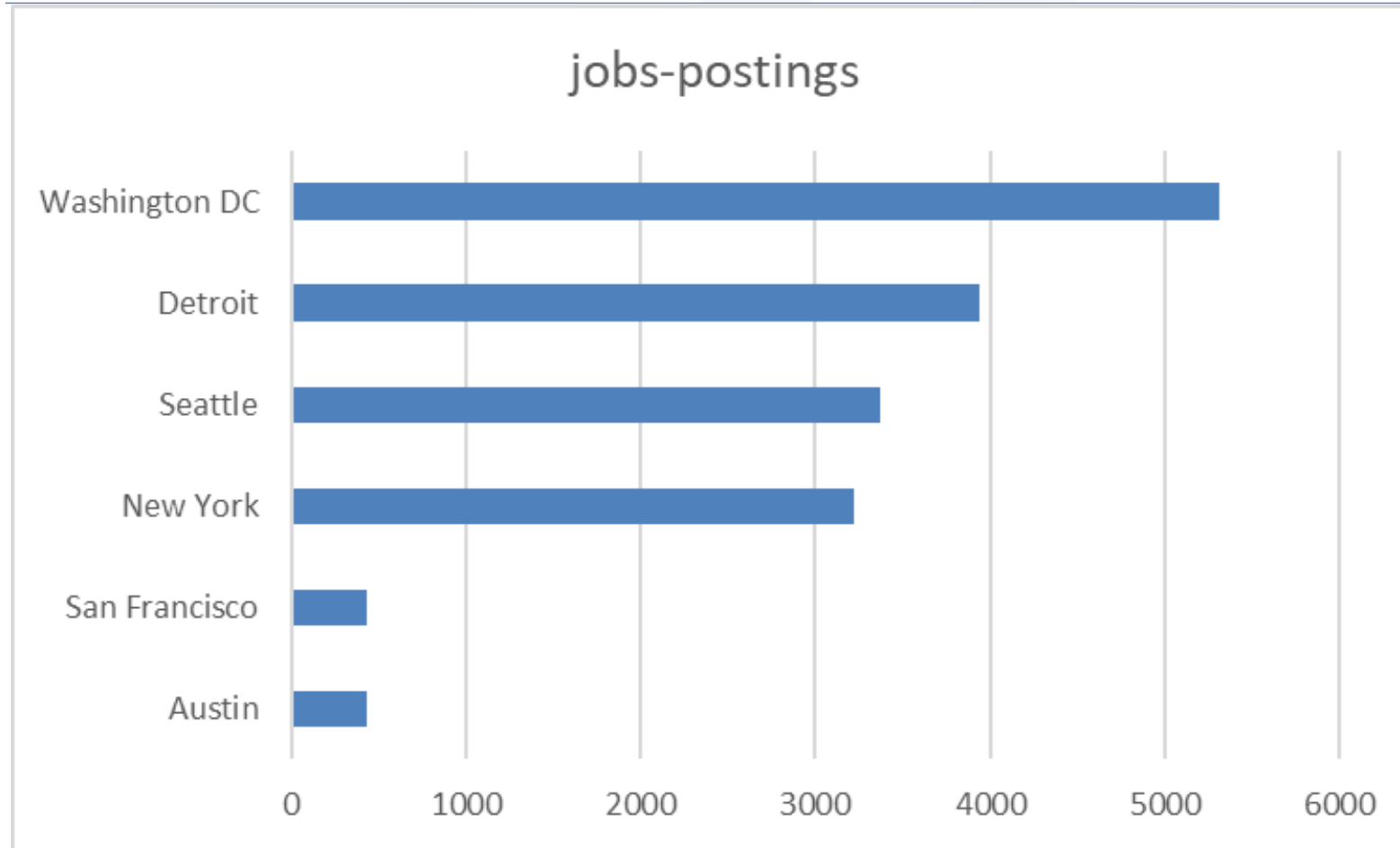
# APPENDIX

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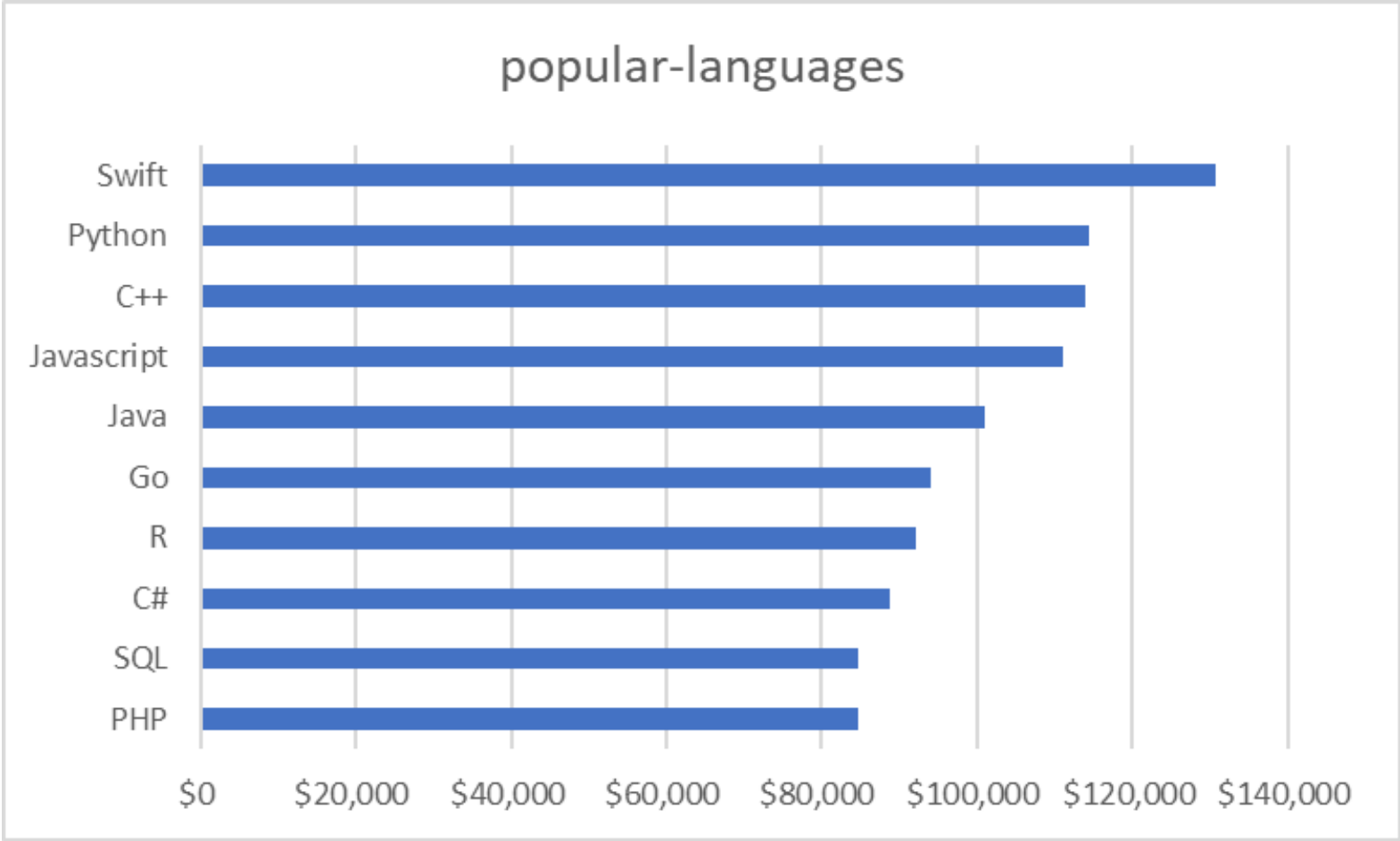
- This dataset is used for analyzing and creating a dashboard (next slide).

# JOB POSTINGS



Location	Number_of_Jobs
Washington DC	5316
Detroit	3945
Seattle	3375
New York	3226
San Francisco	435
Austin	434

# POPULAR LANGUAGES



Language Name	Annual Average Salary
Swift	130801
Python	114383
C++	113865
Javascript	110981
Java	101013
Go	94082
R	92037
C#	88726
SQL	84793
PHP	84727