



Future programming language trends

CAN ŞENTAY

27 MAY 2023

OUTLINE



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

EXECUTIVE SUMMARY



- Collecting demand of jobs open from various technology and locations
- Analyzing the data and identifying insights and trends
 - Top programming language
 - Top databases skills
 - Popular IDEs
- Bringing information together with a dashboard showing current skills, future trend skills, and demographics

INTRODUCTION



- To match the current technology programming in order to ensure that it aligns with the current expertise in its specific fields (IT solutions and consultants)
- Focus problems:
 - What are the programming/database skills in the present?
 - What are the programming/database skills in the future?

METHODOLOGY



- Data Collection
 - Data Wrangling
 - Exploring Data Analysis
 - Data Visualization
 - Dashboard Creation
 - Presenting of Findings
-
- Data source: Job postings (https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBM-DA0321EN-SkillsNetwork/LargeData/m1_survey_data.csv)

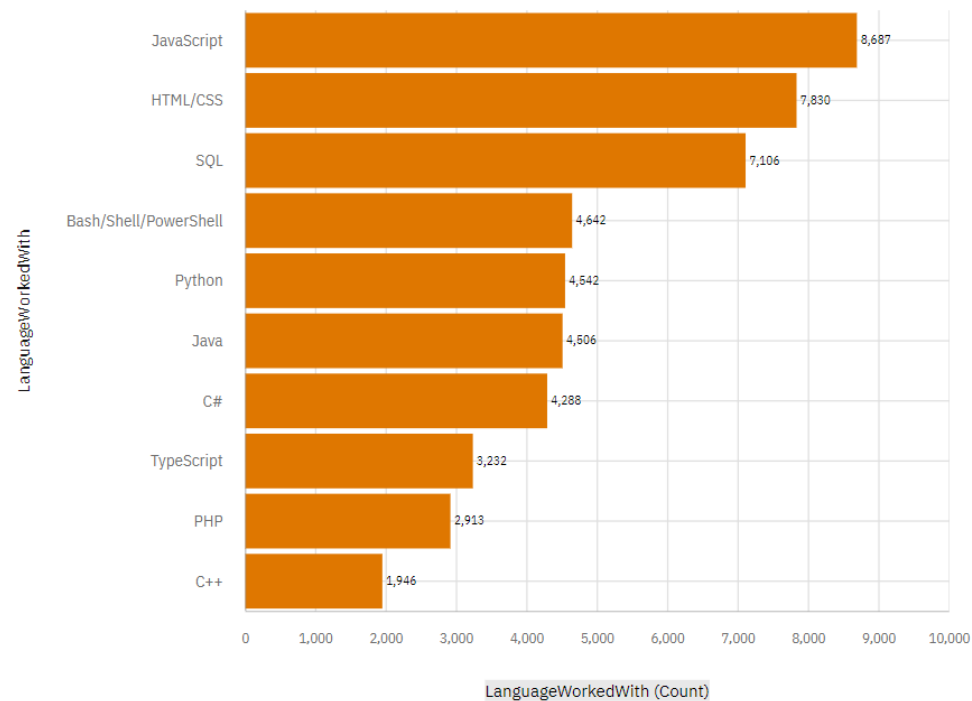
RESULTS



PROGRAMMING LANGUAGE TRENDS

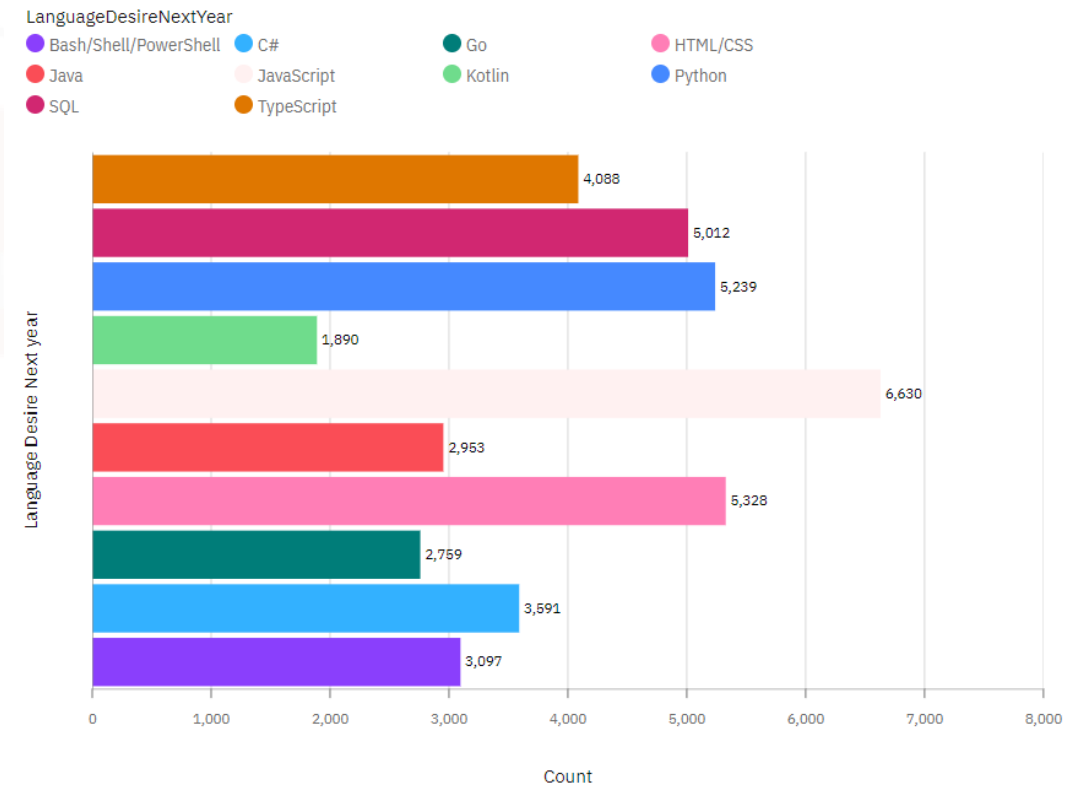
Current Year

Top 10 Language Worked With



Next Year

Top 10 Language Desire Next Year



PROGRAMMING LANGUAGE TRENDS – FINDINGS & IMPLICATIONS

Findings

- Based on both findings, it is obvious that JavaScript is the highest number of people working, followed by HTML and CSS.
- The third most used language SQL has been replaced by Python on the future trend
- C++, which is the lowest number of users will be replaced with Kotlin language based on the future trends.

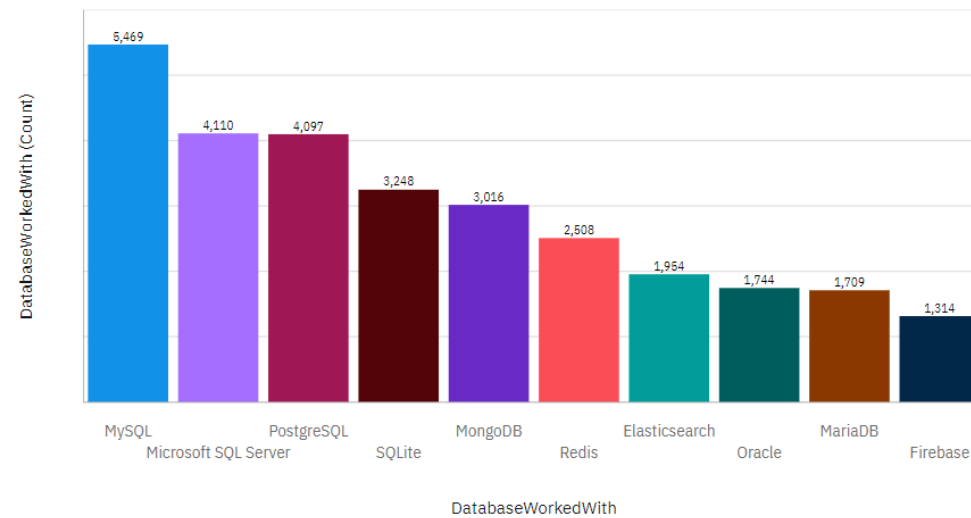
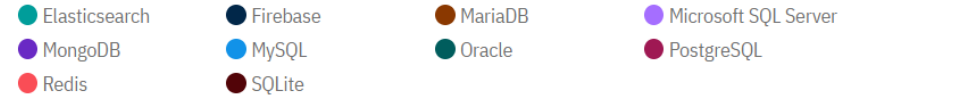
Implications

- There are no changes for the JavaScript and HTML and CSS trends.
- Python has been increasingly used as compared to Bash/Shell/PowerShell
- Though SQL has dropped in number, it still remains usable.

DATABASE TRENDS

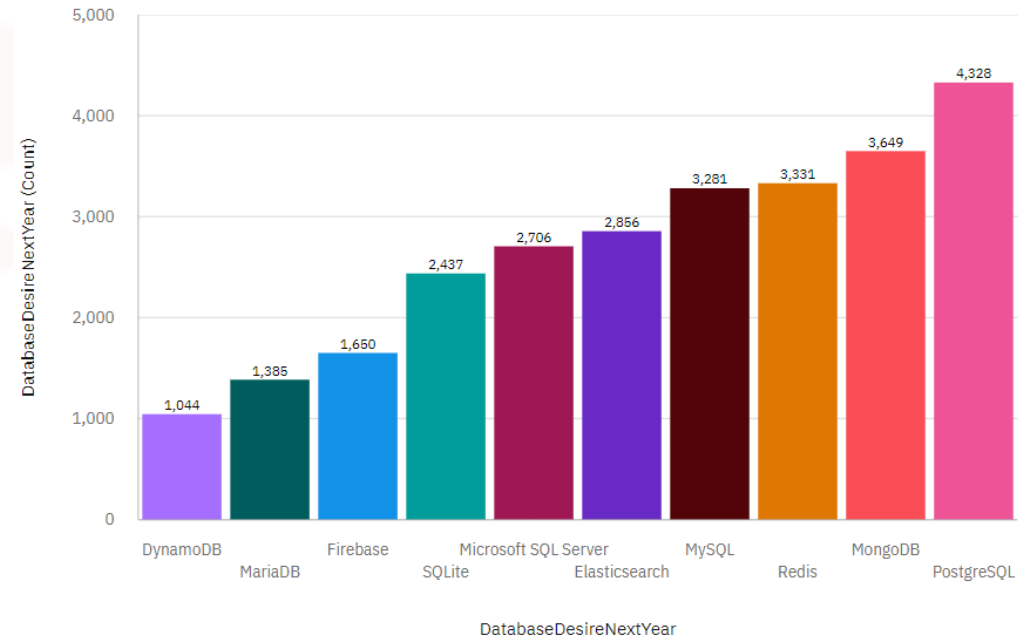
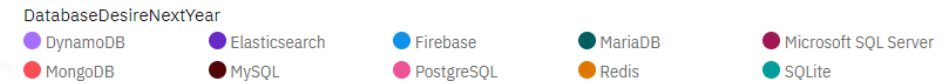
Current Year

Top 10 Database Worked With



Next Year

Top 10 Database Desire Next Year



DATABASE TRENDS – FINDINGS & IMPLICATIONS

Findings

- Based on both findings, it is obvious that MySQL, which is the highest number of database people use, will be replaced by PostgreSQL in the future.
- The MongoDB, the fifth highest in the current trend has increased to the second place in the future trend.
- The least used database, Firebase, had a slight increase to the seventh place in the future trend.

Implications

- SQL will still be the common database used in the future.
- MongoDB will be more popular in the future trends
- Firebase stays relevant in the database system.

DASHBOARD

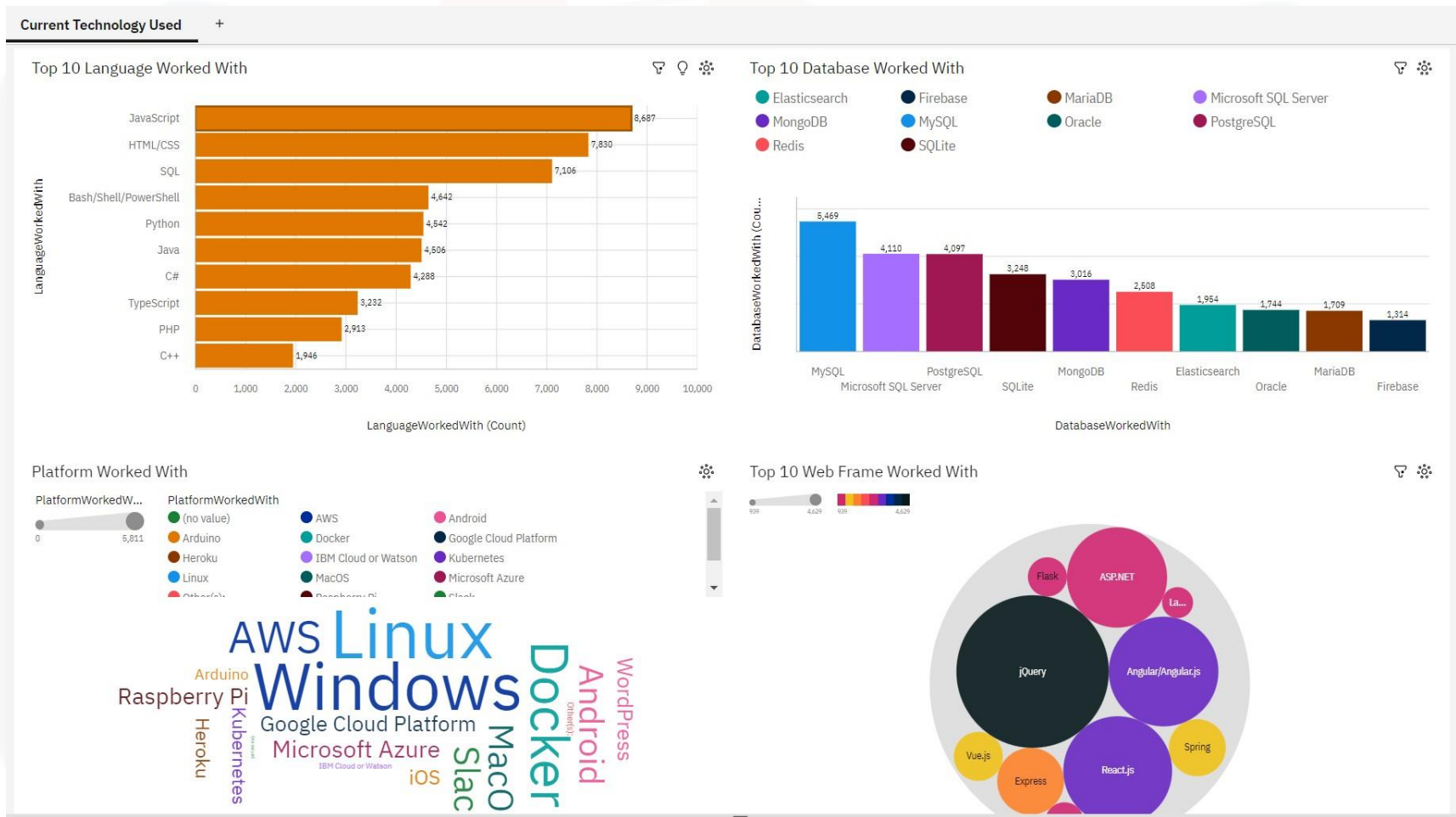


[Current Technology Used](#)

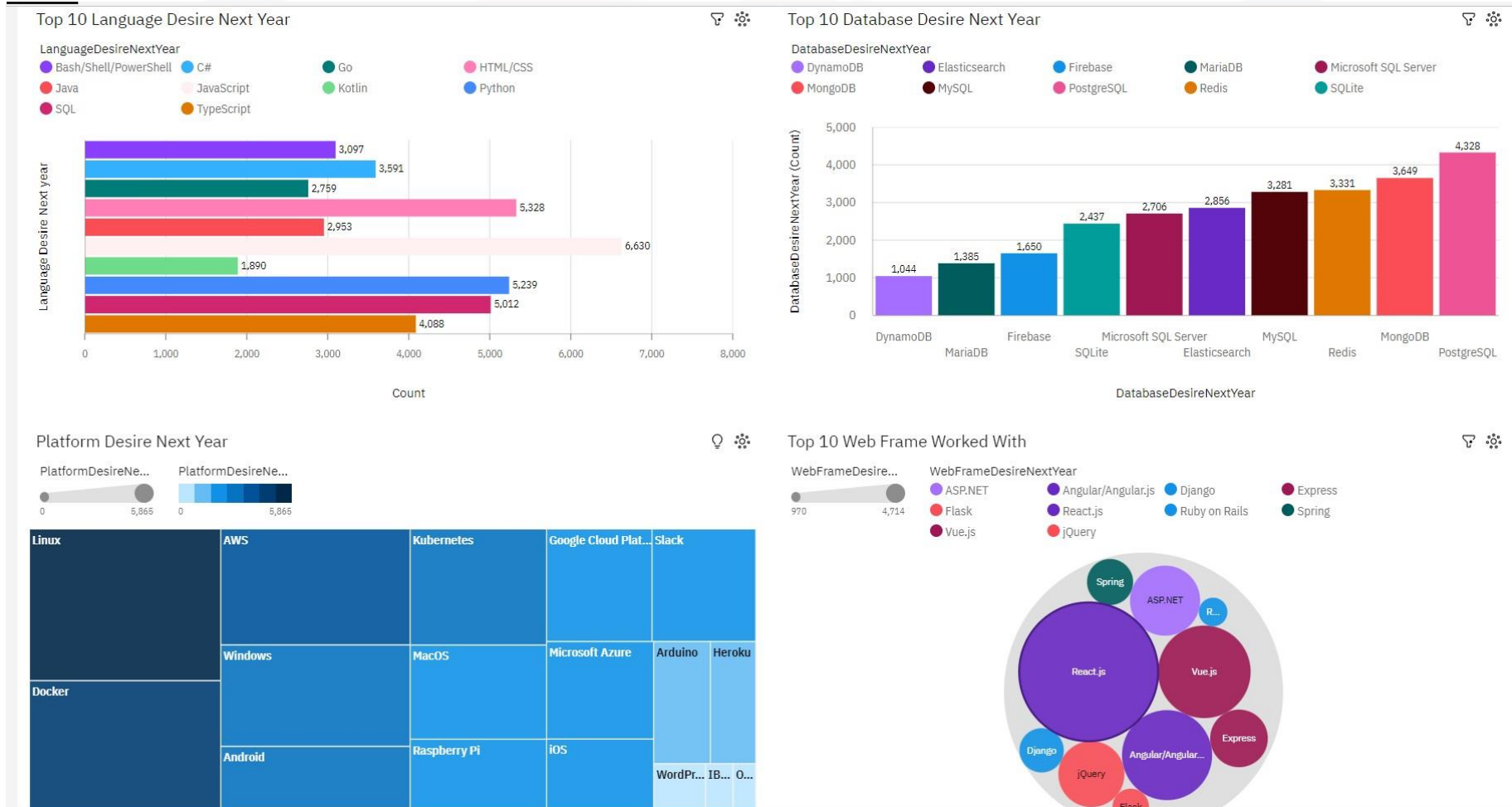
[Future Technology Trend](#)

[Demographics](#)

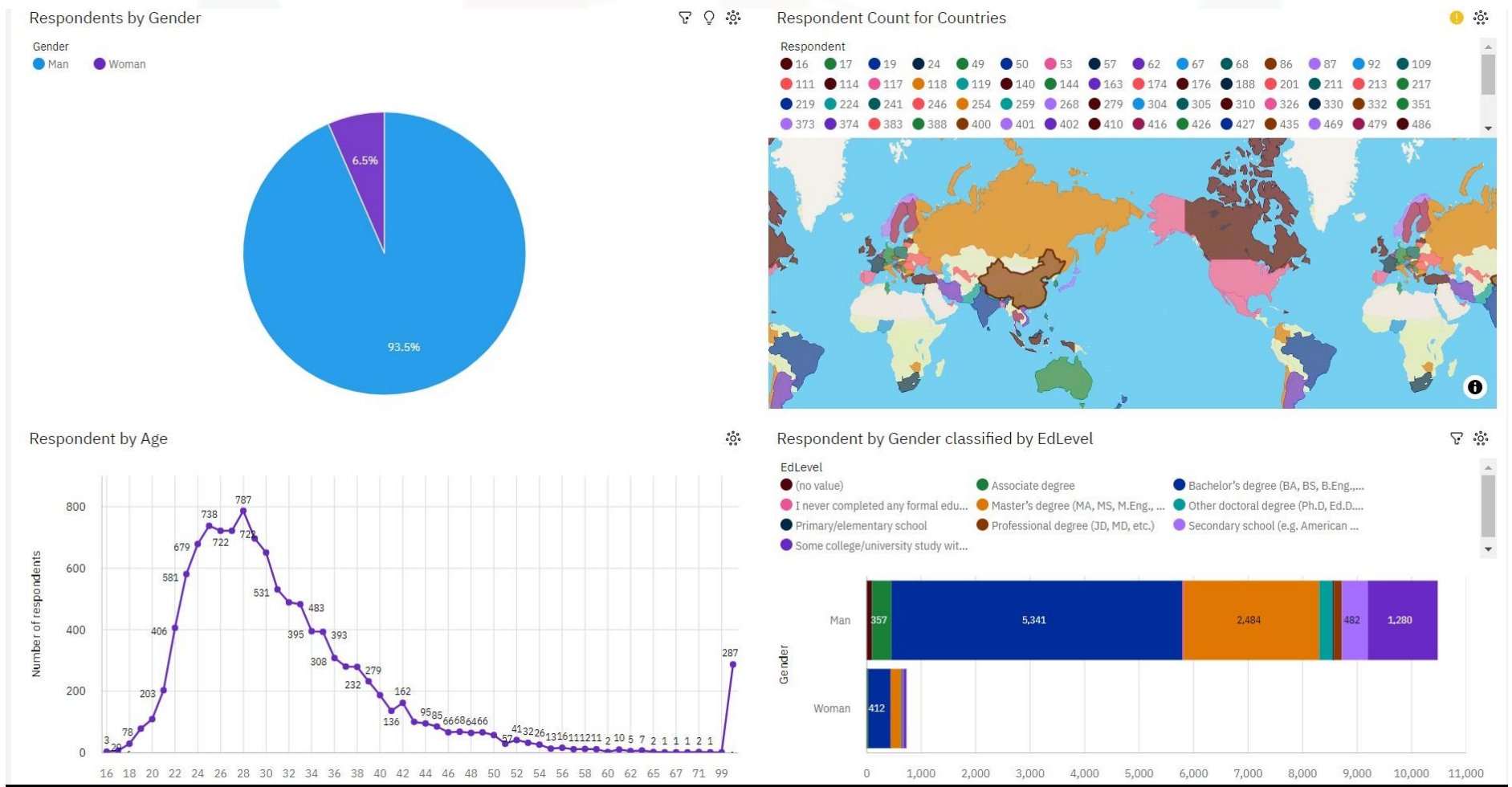
DASHBOARD TAB 1



DASHBOARD TAB 2



DASHBOARD TAB 3



DISCUSSION



- Low number woman in tech.
- What is the key value of HTML/CSS to still be required?
- Why SQL still remain relevant throughout the trend?

OVERALL FINDINGS & IMPLICATIONS

Findings

- By gender, men have shown more participation in tech with the highest number of them having a bachelor's degree
- In the future, JavaScript and HTML/CSS will remain at the top of the list.
- PostgreSQL is presented to be in the first place instead of MySQL, compared to the disappearance of Microsoft SQL Server and SQLite

Implications

- Large number of men with bachelor's Degree tend to participate
- Javascript/ and HTML/CSS will continue to thrive along with time
- SQL servers will be required but the most popular database is expected to be PostgreSQL

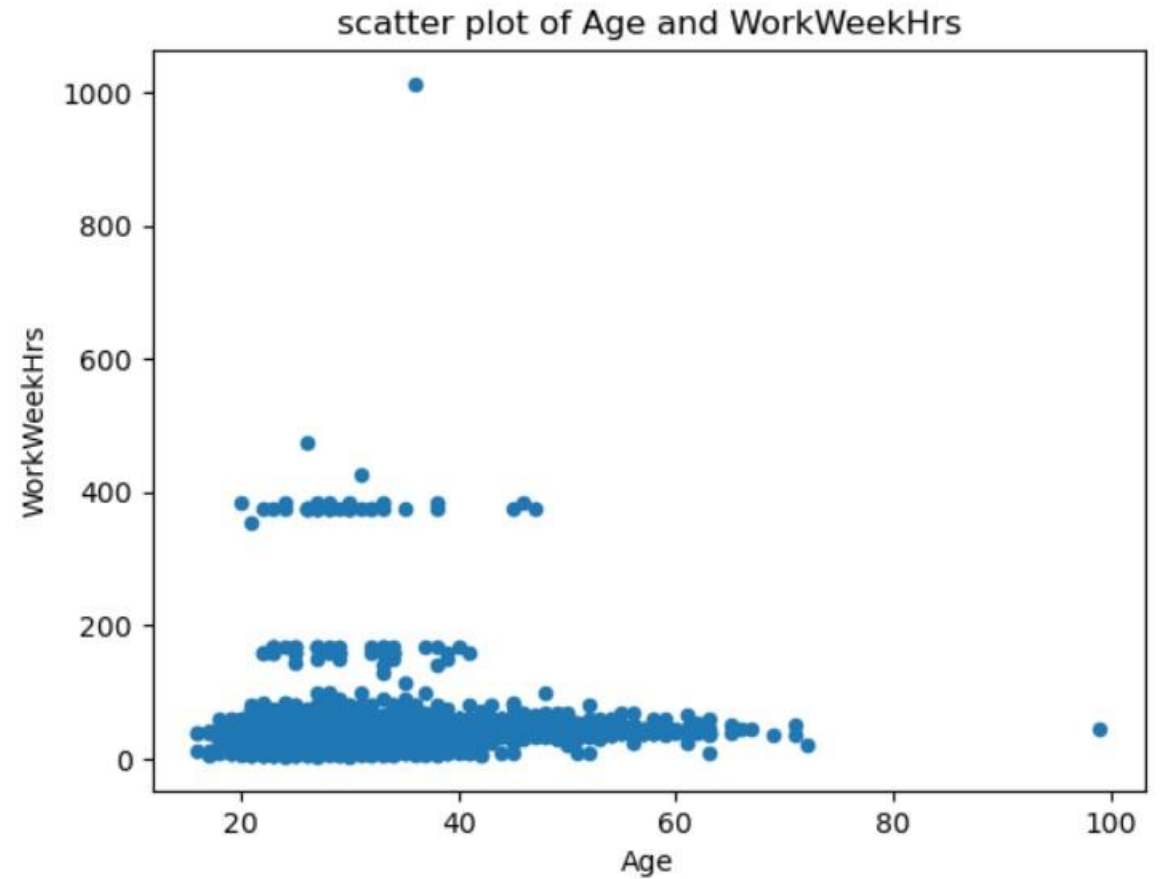
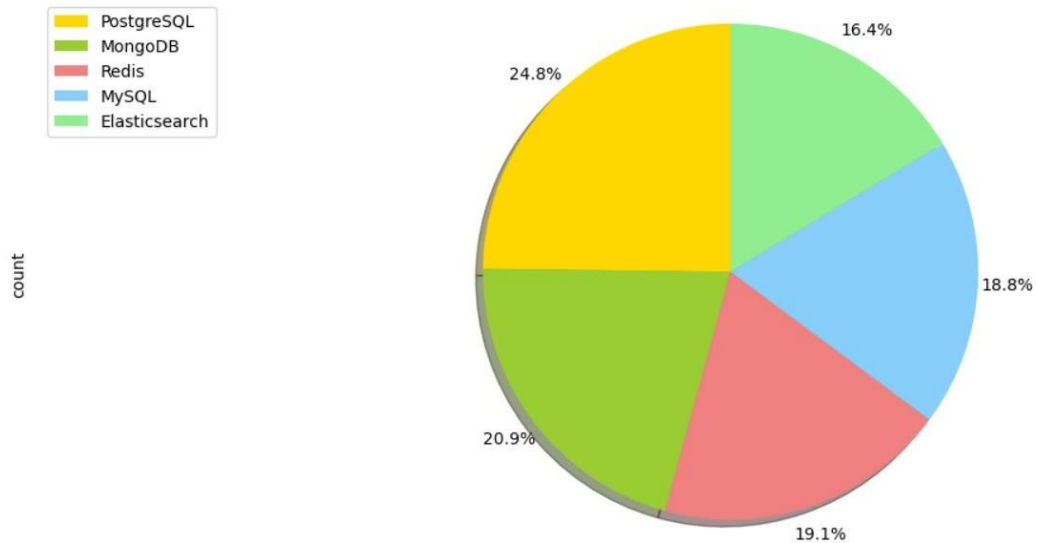
CONCLUSION



- HTML/CSS language is estimated to be popular as time goes by
- PostgreSQL database will also be popular among the databases
- Men are more interested in IT skills more than women

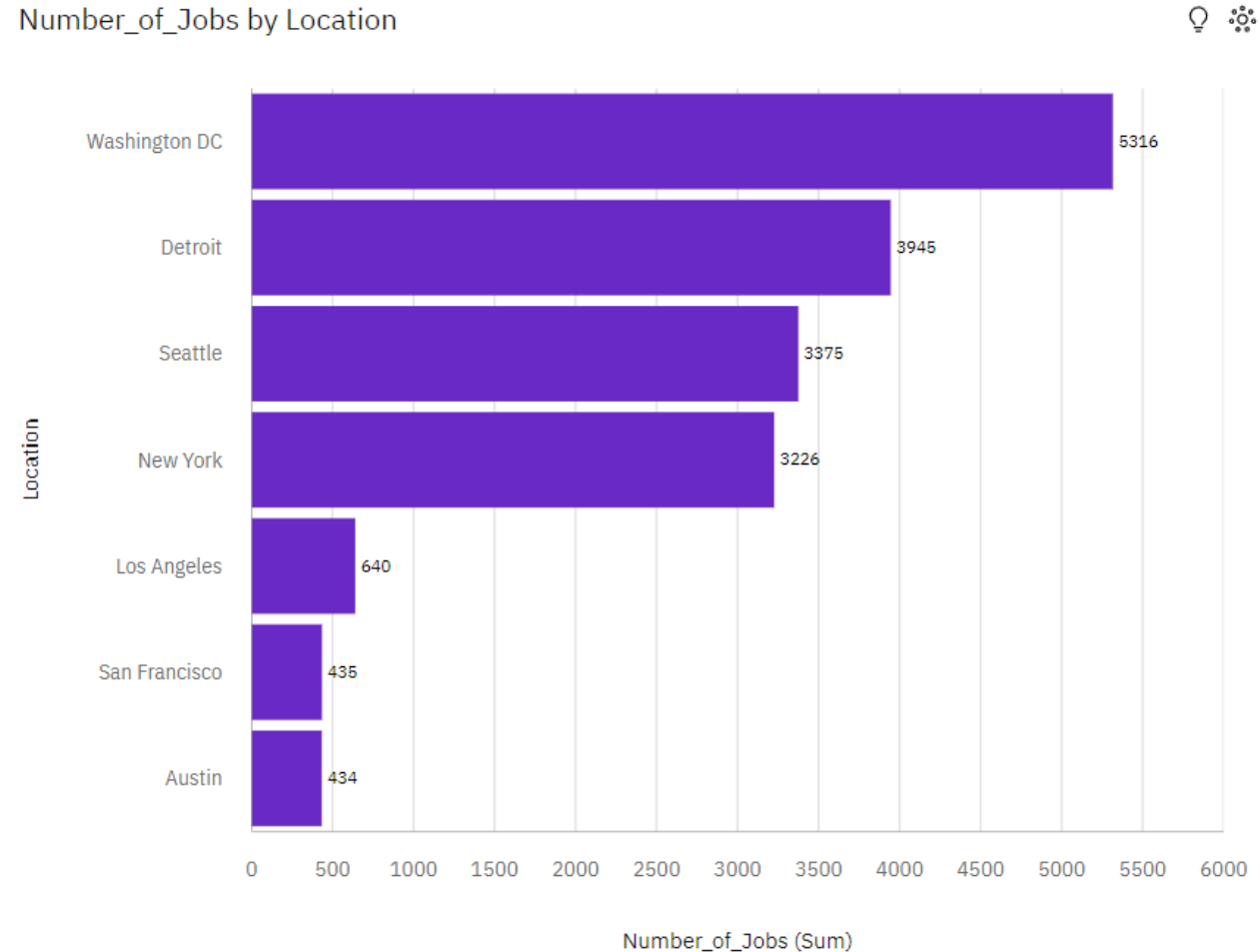
APPENDIX

The top 5 databases that respondents wish to learn next year



JOB POSTINGS

In Module 1 you have collected the job posting data using Job API in a file named “job-postings.xlsx”. Present that data using a bar chart here. Order the bar chart in the descending order of the number of job postings.



POPULAR LANGUAGES

In Module 1 you have collected the job postings data using web scraping in a file named “popular-languages.csv”. Present that data using a bar chart here. Order the bar chart in the descending order of salary.

number_of_jobs by technology

