Developer Skills Demand Report: Key Findings

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EXECUTIVE SUMMARY

- To stay competitive, the company must identify future skill requirements amidst changing technologies.
- The analysis and findings from this report provide insight into:
  - Current most popular languages, databases and other technologies
  - Future most popular languages, databases and other technologies
  - Current Demographics (Gender, Age, Education & Location)
- Overall, the survey provides valuable insights and can guide the company in aligning strategies, budgets, recruitment and education initiatives and stay competitive.

INTRODUCTION

- The **Stack Overflow 2019 Developer Survey** is a comprehensive study from 90,000 developers around the world.
  - This analysis is based on a subset of the data (1/10th).
- The primary objective of the annual surveys is to gather data regarding technology usage and trends among developers.
- This report will identify key trends, skill gaps, and growth areas in developer languages and database technologies
- These findings will guide businesses, professionals, hiring managers, educators, and policymakers in allocating budgets, recruitment, and education based on identified gaps, growth, and interests.

METHODOLOGY

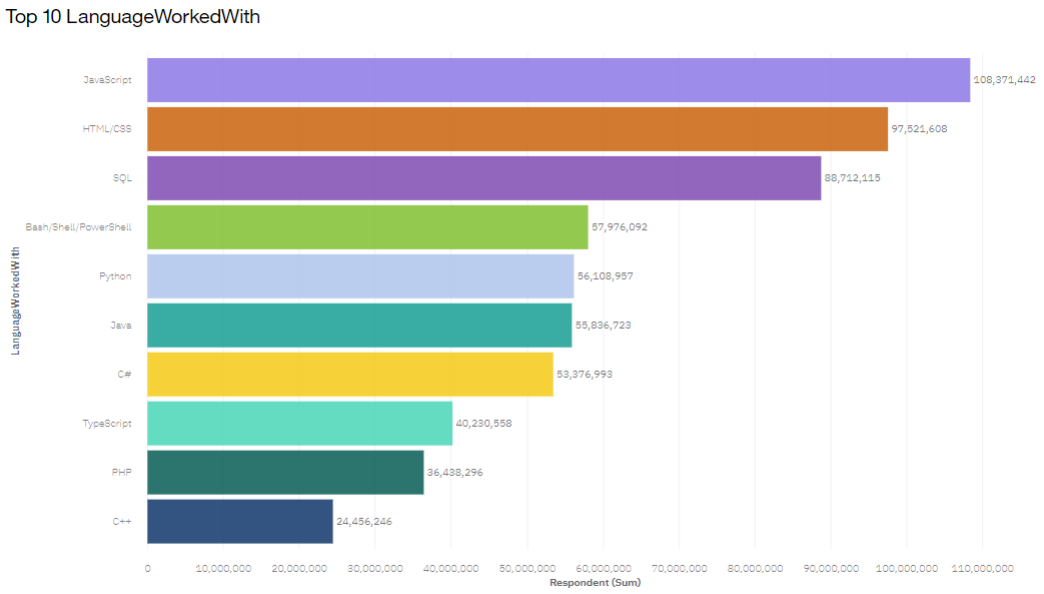
- **Data collection:**
  - Web scraping, accessing APIs to collect data, and other formats like .csv files, excel sheets, and databases

  sources:
  - Stack Overflow Annual Survey Data
  - IBM Survey Data
- **Data Wrangling:**
  - Data cleaned – removed duplicates, missing values (imputation), data normalization with Python.
- **Analysis & Visuals:**
  - Exploratory analysis conducted to understand distribution of data, correlation and remove outliers that may skew results.
  - Cognos Dashboard examining programming language, databases, platforms and demographics.

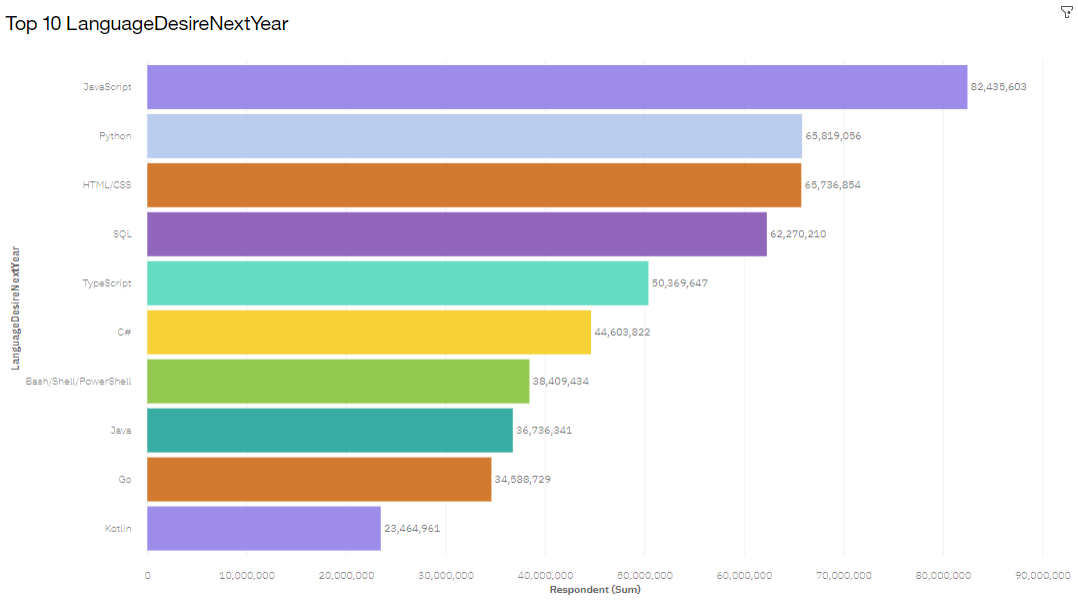
RESULTS

PROGRAMMING LANGUAGE TRENDS

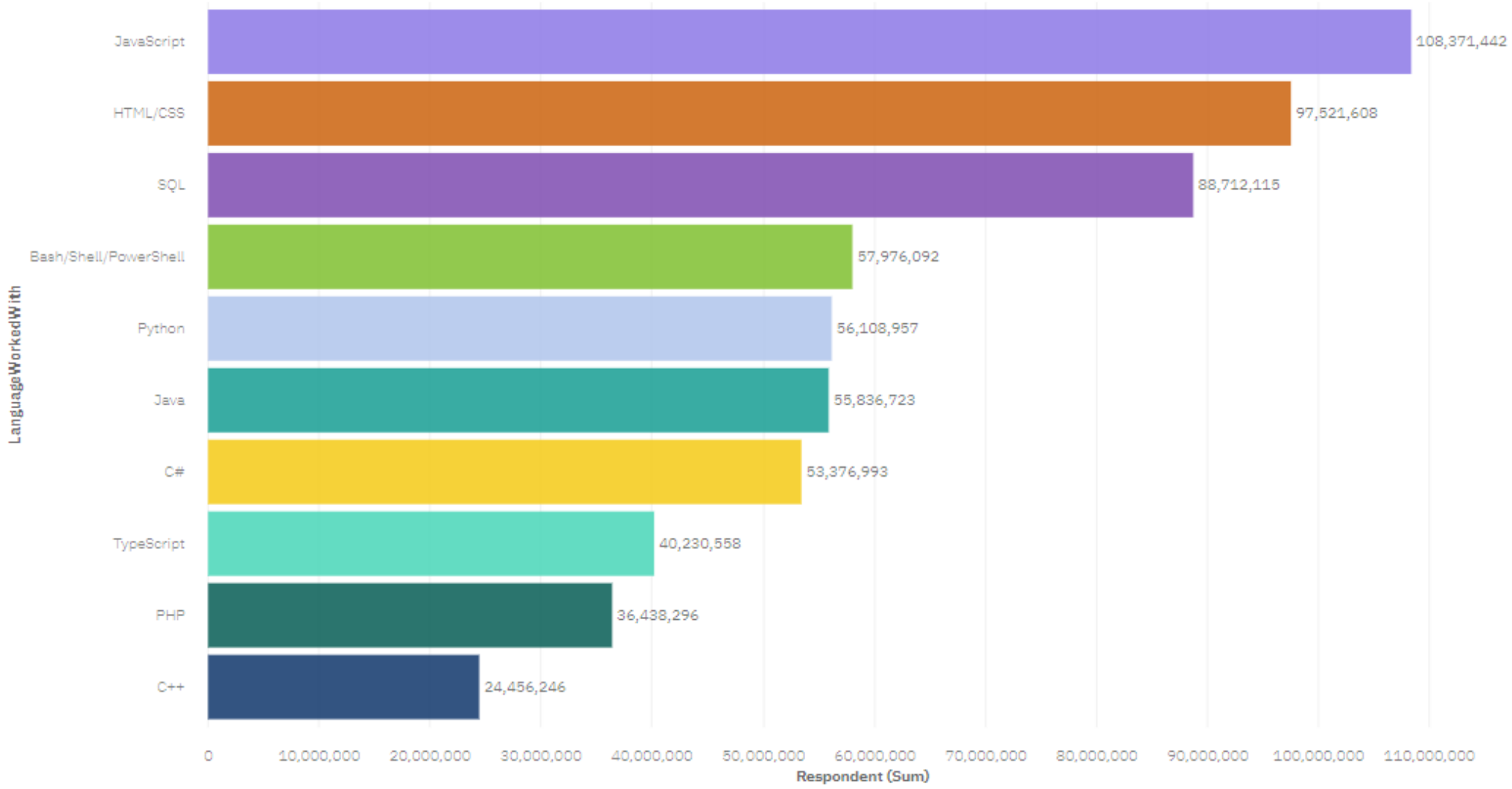
Top 10 Languages Worked With Currently



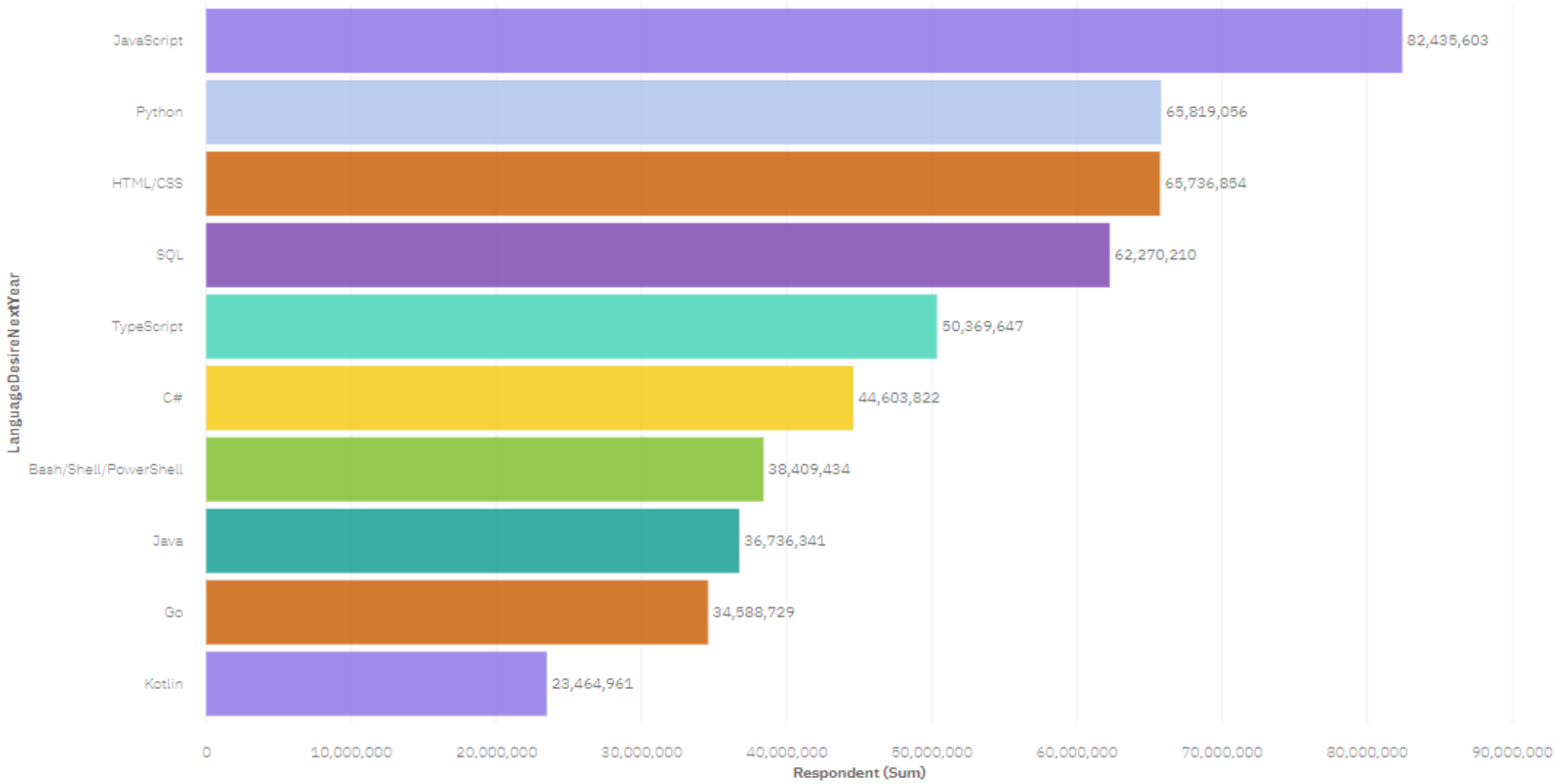
Top 10 Languages Desired for Next Year



Top 10 LanguageWorkedWith



Top 10 LanguageDesireNextYear



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

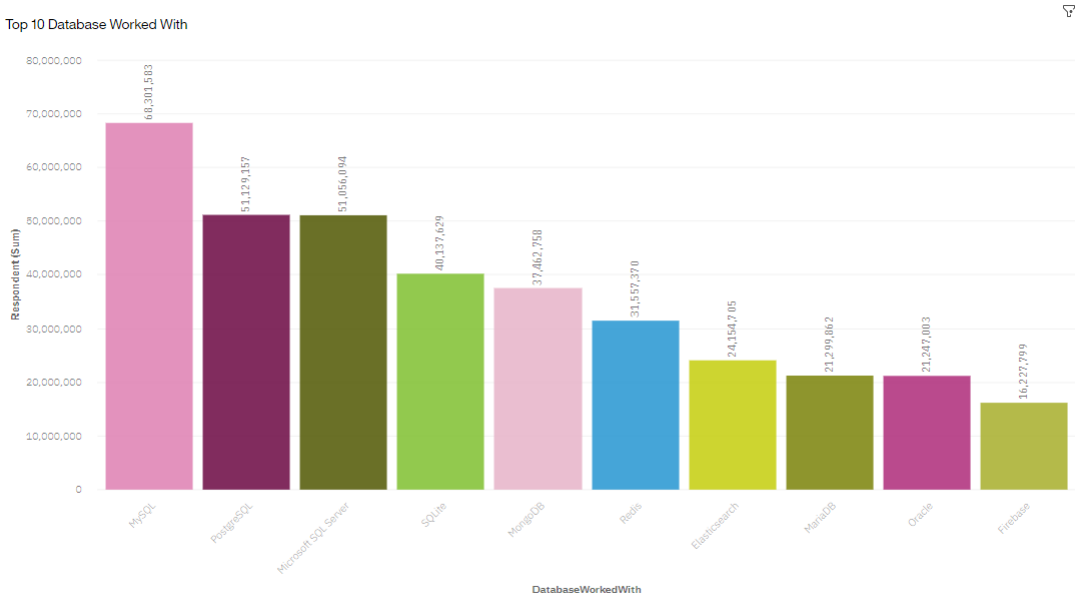
- JavasScript and HTML/CSS are the most popular languages and are likely to be next year too.
- Python interest is on the rise
- Decrease in interest in core languages like C++, C# and Java

Implications

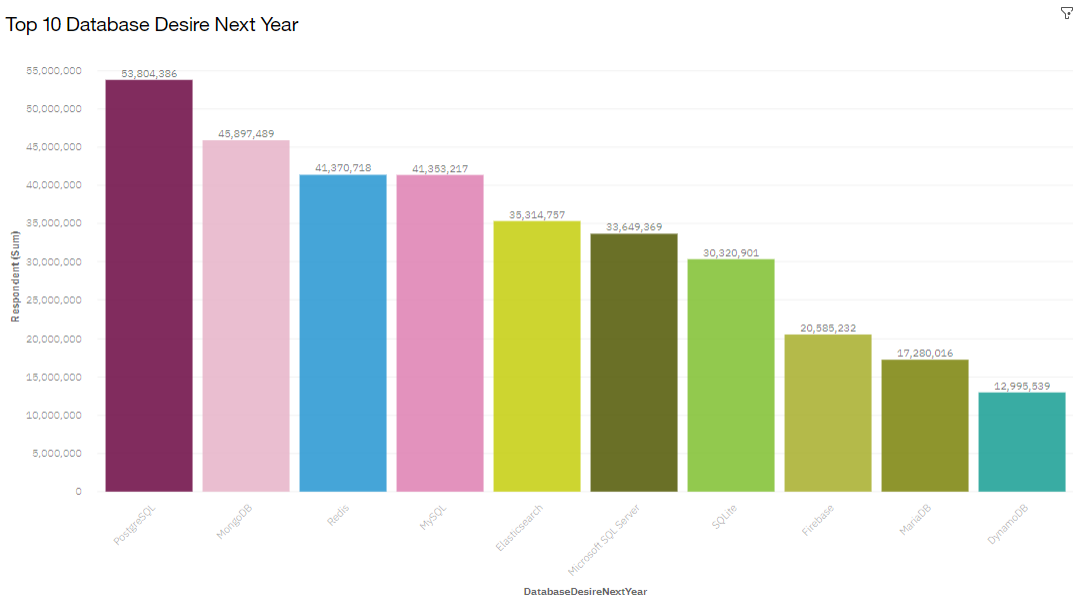
- Web Development remains in high demand and a key skill
- Languages like Python are growing fast and reflects the growth in Data, AI and ML.
- SQL remains in the top 5 languages and it's importance remains.

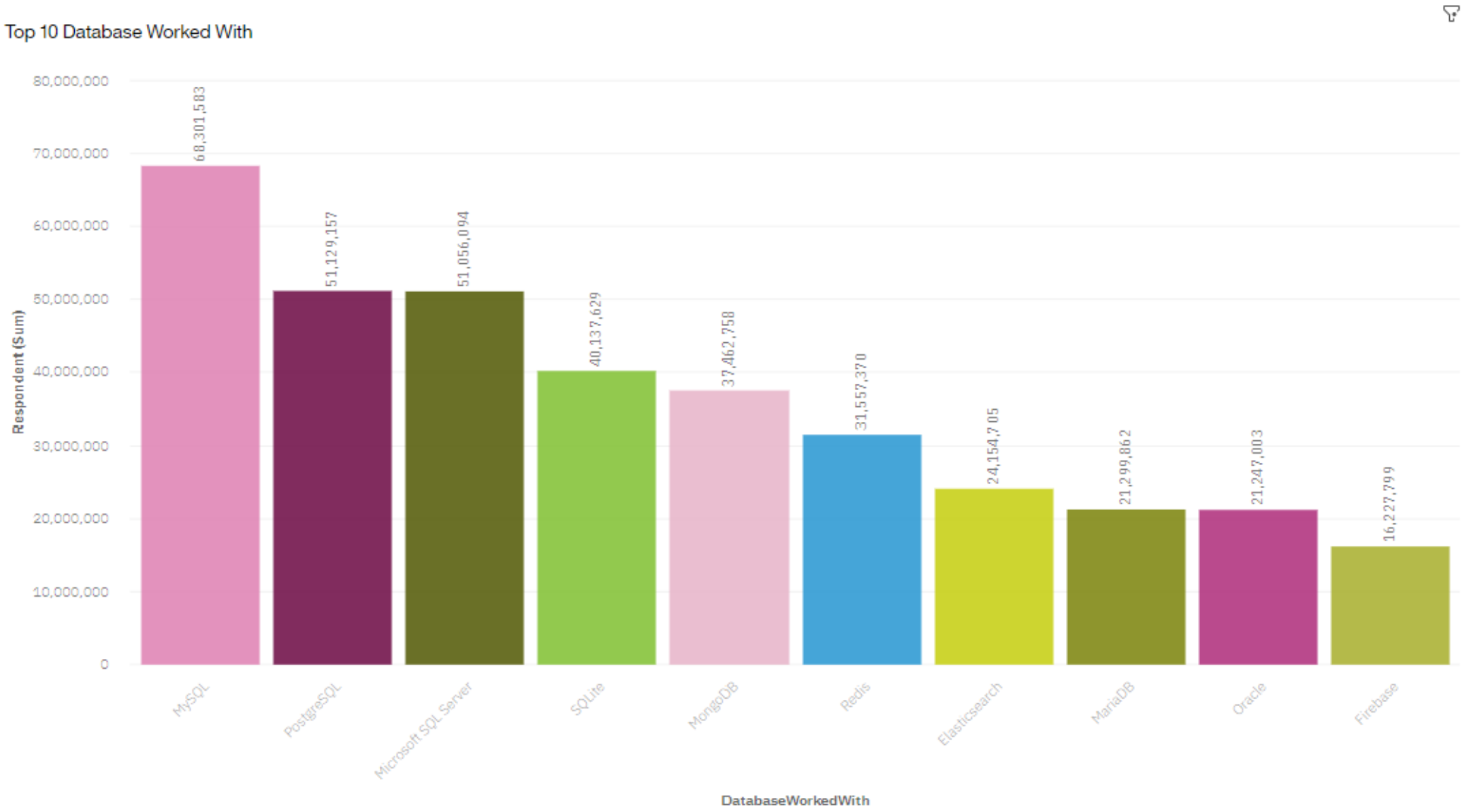
DATABASE TRENDS

Top 10 Databases Worked With Currently

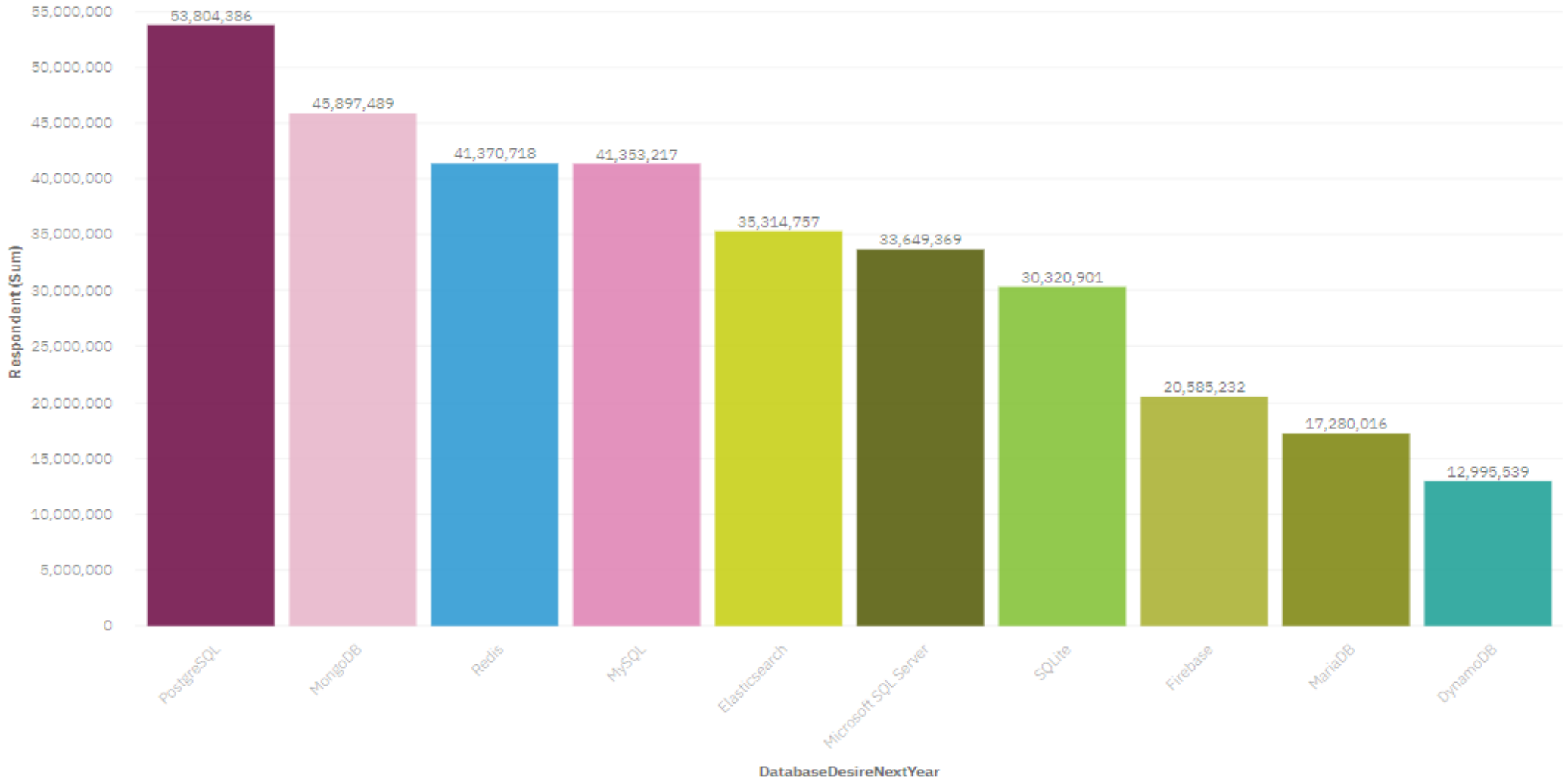


Top 10 Databases Desired for Next Year




Top 10 Database Worked With
80,000,000
70,000,000
60,000,000
50,000,000
40,000,000
30,000,000
20,000,000
10,000,000
0
Respondent (Sum)
68,301,583
51,129,157
51,056,094
40,137,629
37,462,758
31,557,370
24,154,705
21,299,862
21,247,003
16,227,799
MySQL
PostgreSQL
Microsoft SQL Server
SQLite
MongoDB
Redis
Elasticsearch
MariaDB
Oracle
Firebase
DatabaseWorkedWith

Top 10 Database Desire Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL was 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 and Redis are two languages with increasing interest for next year.

Implications

- There appears to be increasing developer preference toward open-source database
- NoSQL database programs are gaining popularity, which likely reflects a growing need to handle non-relational and unstructured data.

DASHBOARD

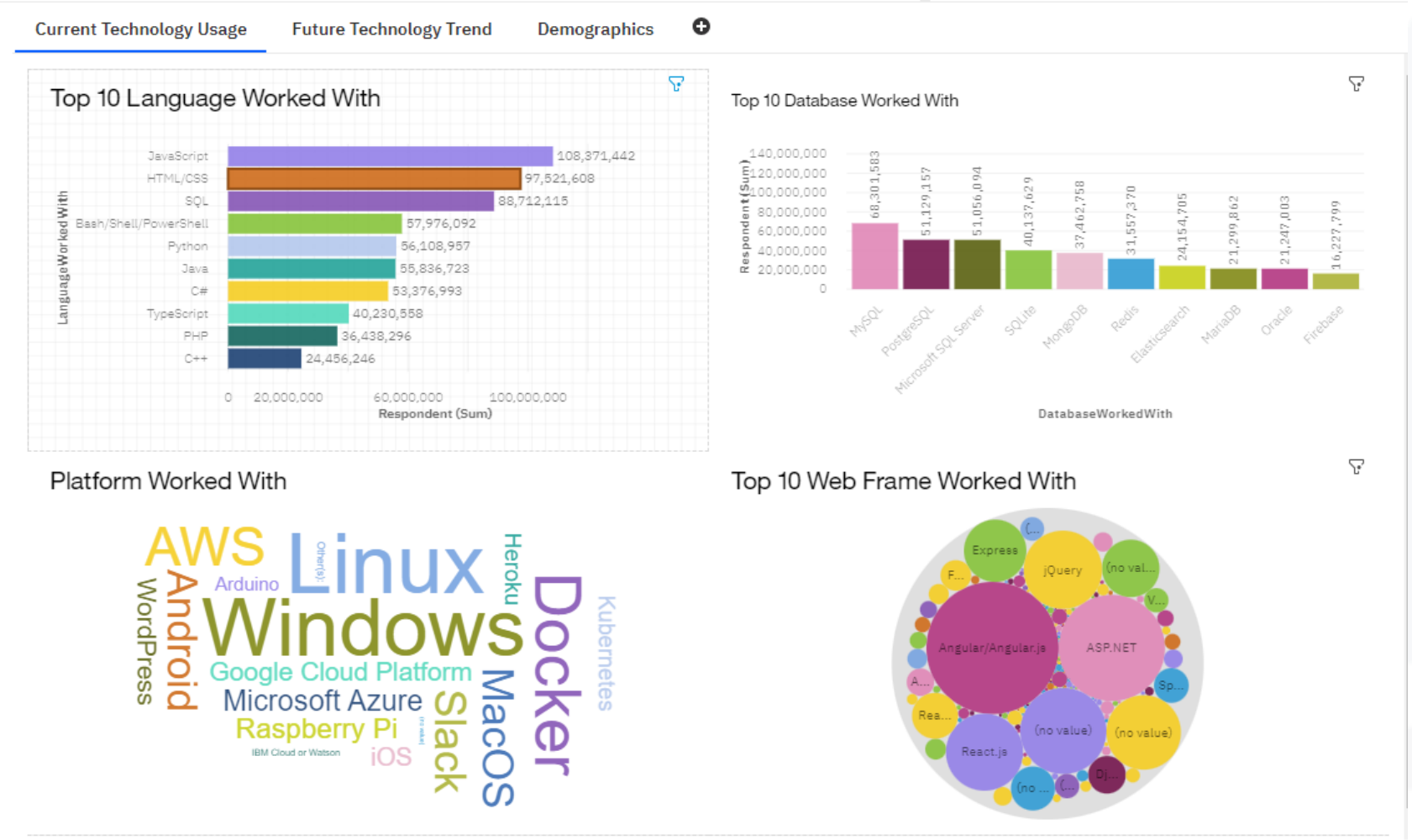
Cognos Dashboard – Full interactive link to the Dashboard.

3 Tabs showing:

- Current Trends
- Future Trends
- Current Demographics

Screenshots can be found in the next slides

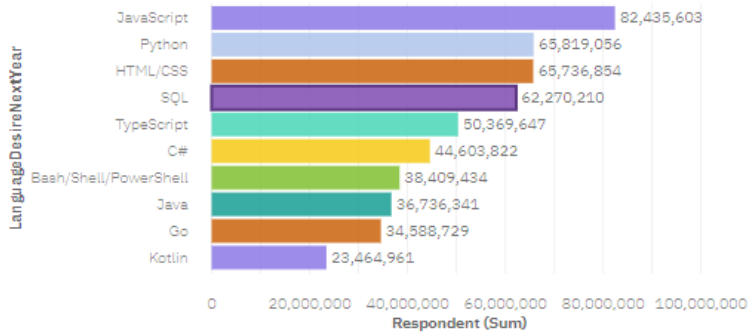
TAB 1 – Current Tech Usage



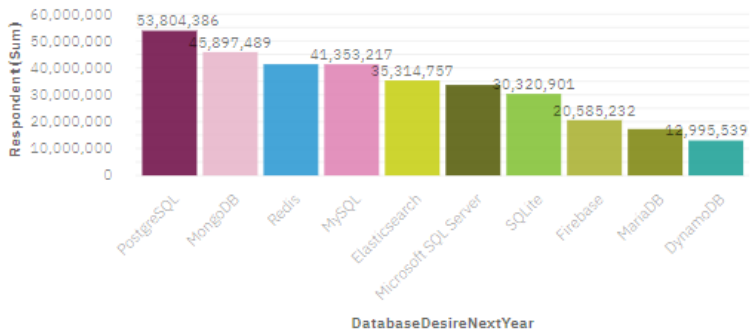
TAB 2 – Future Tech Trend

Current Technology Usage | Future Technology Trend | Demographics

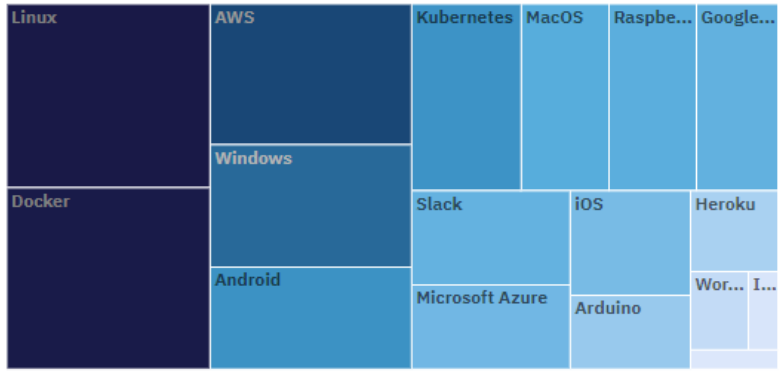
Top 10 Language Desire Next Year



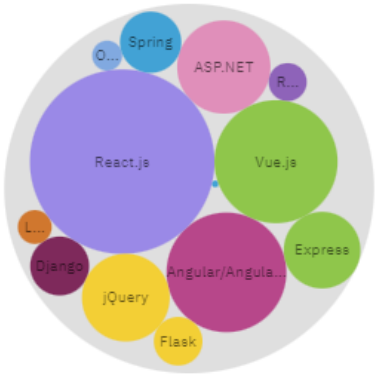
Top 10 Database Desire Next Year



Platform Desire Next Year



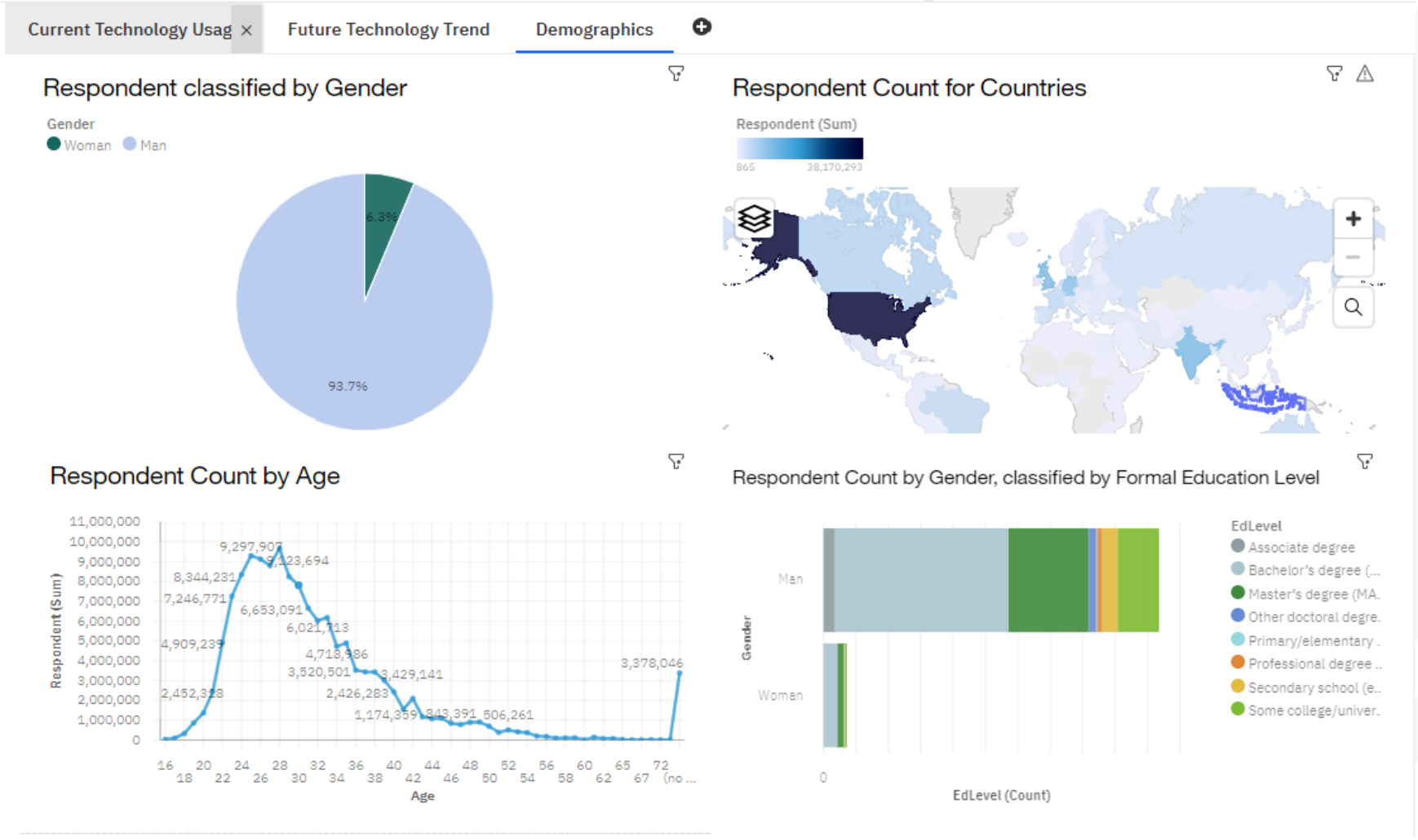
Top 10 Web Frame Desire Next Year



IBM Developer

SKILLS NETWORK

TAB 3 - Demographics



DISCUSSION

OVERALL FINDINGS & IMPLICATIONS

Findings

- HTML/CSS remain most popular languages current and future
- Python is increasing in interest
- AWS and cloud based solutions are in demand
- Large Gender gap with Females only account for 6% of respondents.

Implications

- Web development is still in high demand and will continue to be
- Cloud based technology is increasing due to transition big data, storage and accessibility requirements.
- Education and policy needs to encourage better gender representation

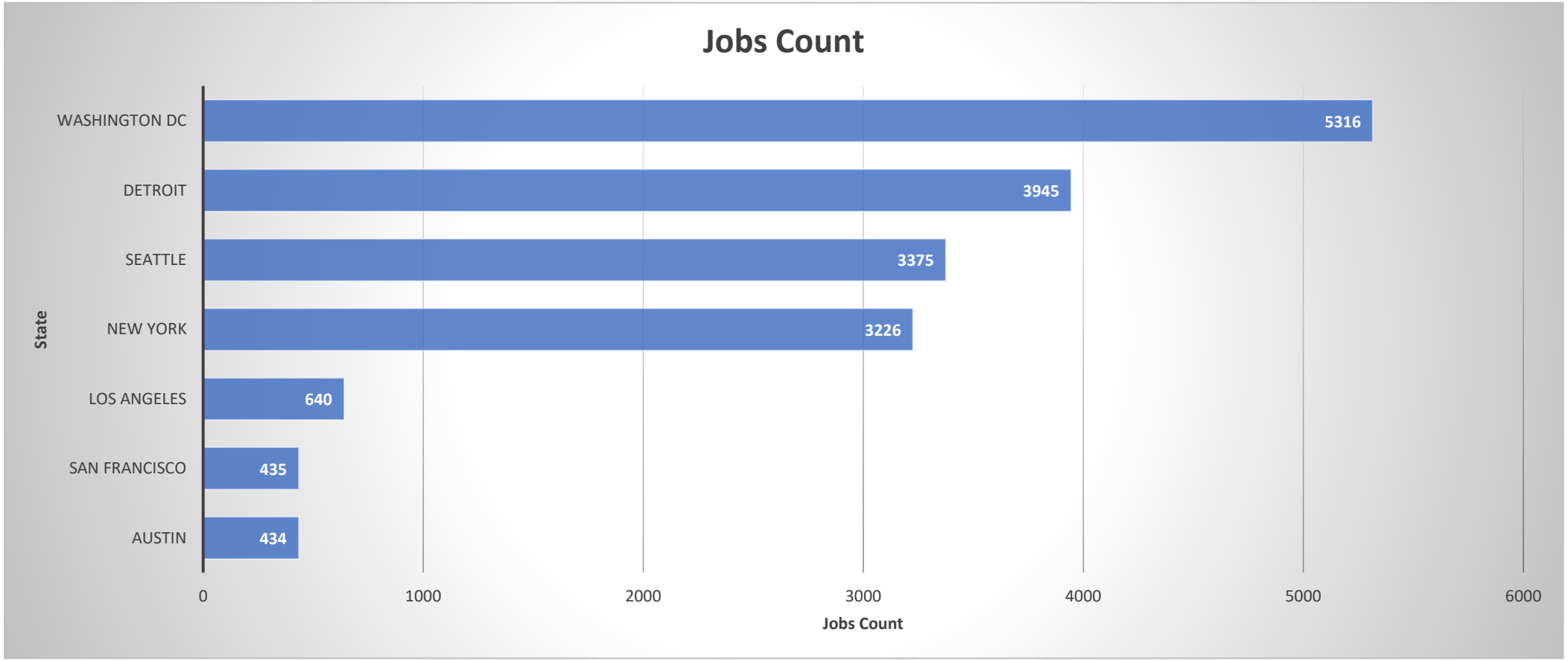
CONCLUSION

- Overall, the survey data has provided some valuable insights into the current and future trends in languages, databases and other technologies.
- All stakeholders need to be aware of how the technology demand is changing and provide the necessary resources and education to keep up with trends in types of data, ease of use, AI/ ML and Big Data.

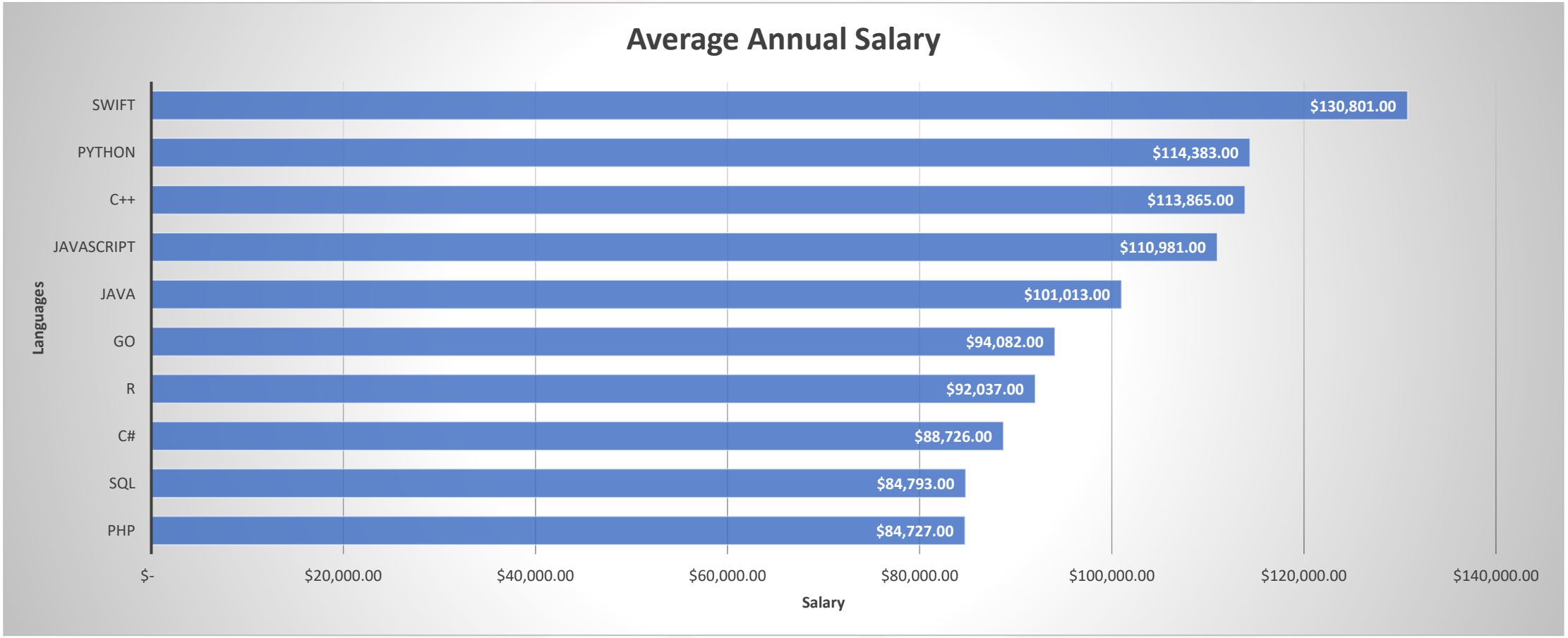
APPENDIX

- Include any relevant additional charts, or tables that you may have created during the analysis phase.

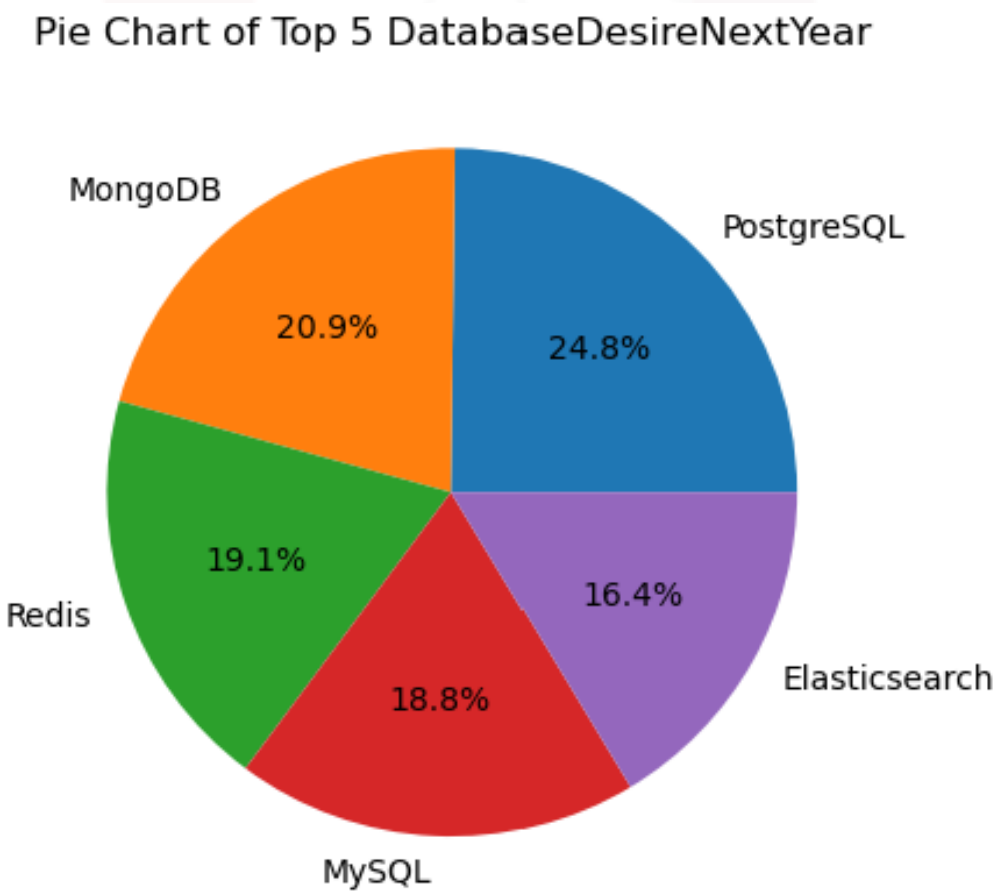
JOB POSTINGS



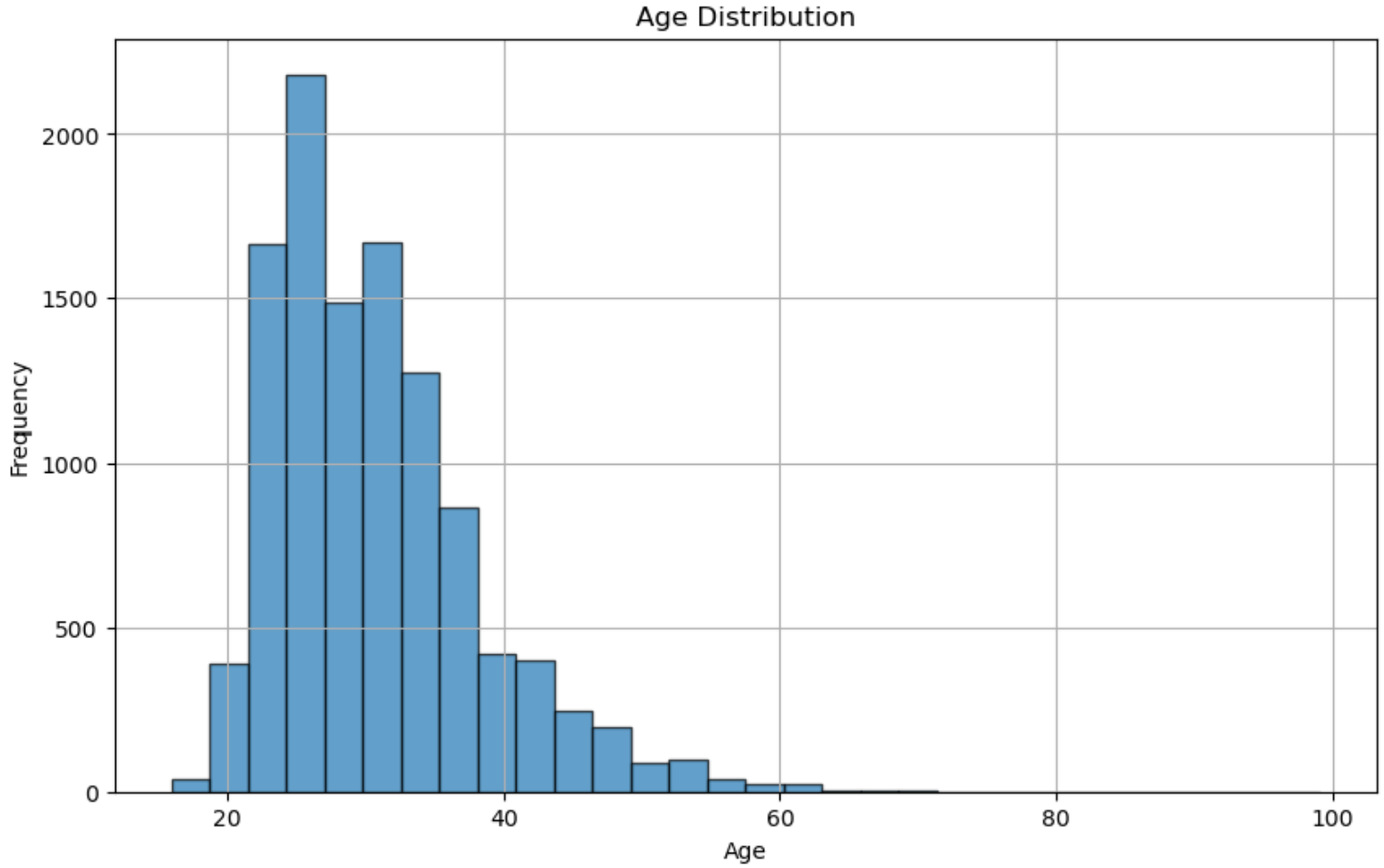
POPULAR LANGUAGES



Appendix C: Top 5 Database Desired



Appendix D: Age Distribution of Respondents



Appendix E: Salary Distribution of Respondents