



IBM Dashboard Final Project

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OUTLINE



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EXECUTIVE SUMMARY



- Utilize IBM Cognos to visualize a 2019 Stack Overflow survey
- Determine trends in current and future technologies and demographic of respondents

INTRODUCTION



- Explore current and future trends in technology/software
- Recognize the demographic
- Purpose: Identify in-demand technologies from respondents
- Questions:
 - What are the top technologies?
 - Which are desired?
 - What and where is the demographic (gender, country)?

METHODOLOGY



- Data source gathered from Stack Overflow under a ODbL: Open Database License
 - Shared by IBM Coursera
- Utilize 2 CSV files containing survey data of technologies and demographics
- Compare and visualize both sources

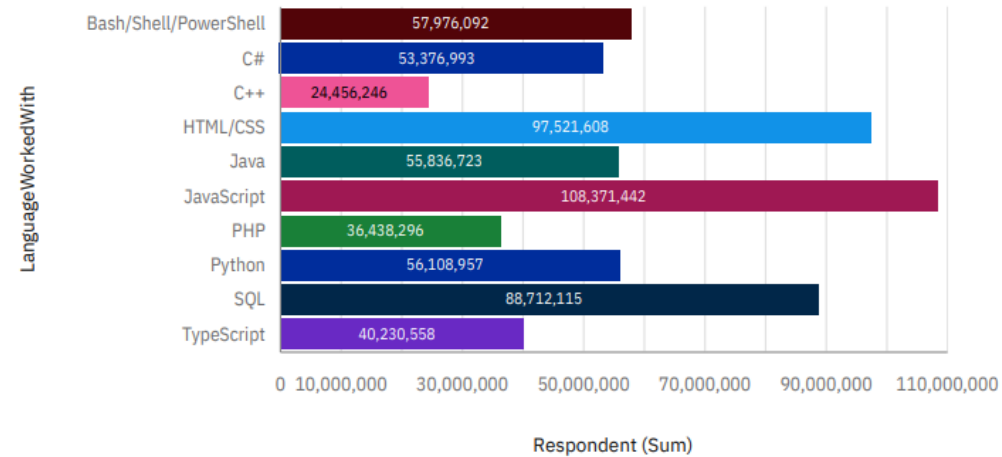
RESULTS

- The data analyzed in this study was sourced from the 2019 Stack Overflow Developer Survey
- Current Technology Usage
 - Top 10 current languages
 - Top 10 current databases
 - Top 10 current web frames
 - Current platforms
- Future Trends
 - Top 10 desired languages
 - Top 10 desired databases
 - Top 10 web frames
 - Desired platforms
- Demographics
 - Respondents by gender
 - Respondents by age
 - Respondents by country
 - Respondents by gender and education level

PROGRAMMING LANGUAGE TRENDS

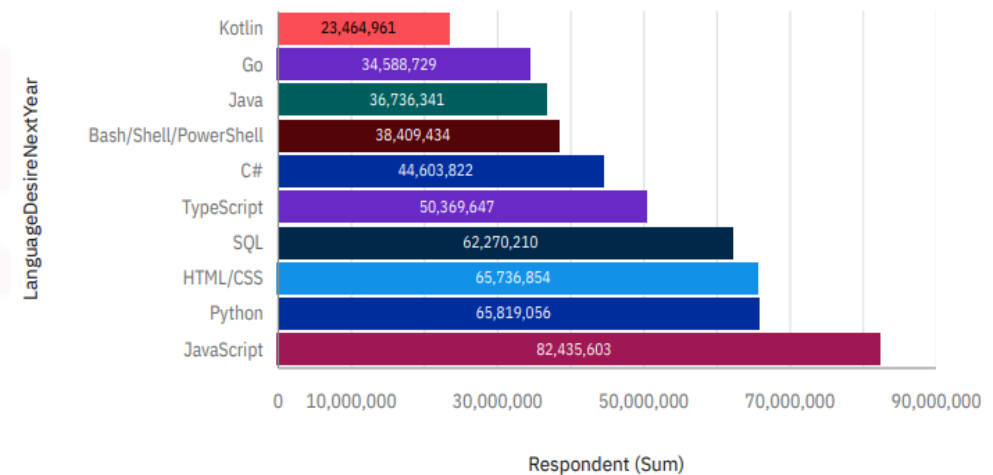
Current Year

Top 10 LanguageWorkedWith



Next Year

Top 10 LanguageDesireNextYear



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- JavaScript is the largest current and future language
- Python is second to be the most desired language, currently around the mid range

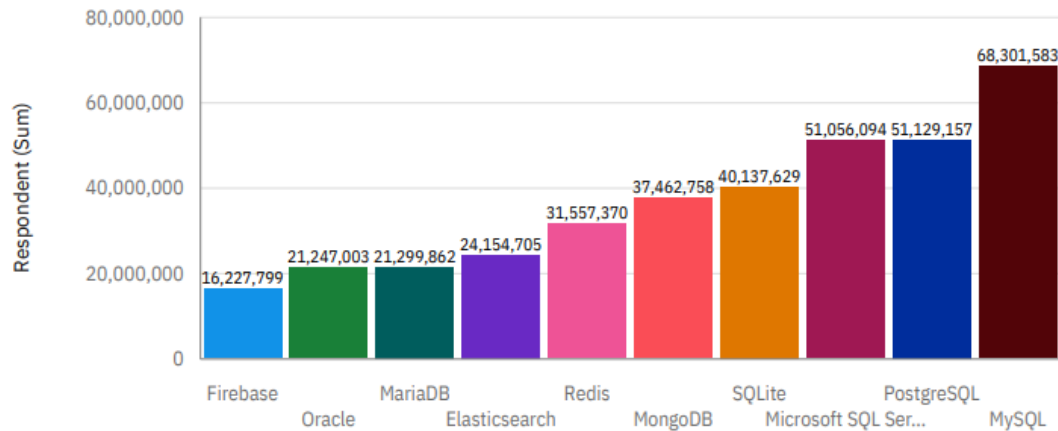
Implications

- Continued dominance of JavaScript implies its maintained advantages over competitor languages
- Developers should aim to learn Python to meet the growing demand in the following year

DATABASE TRENDS

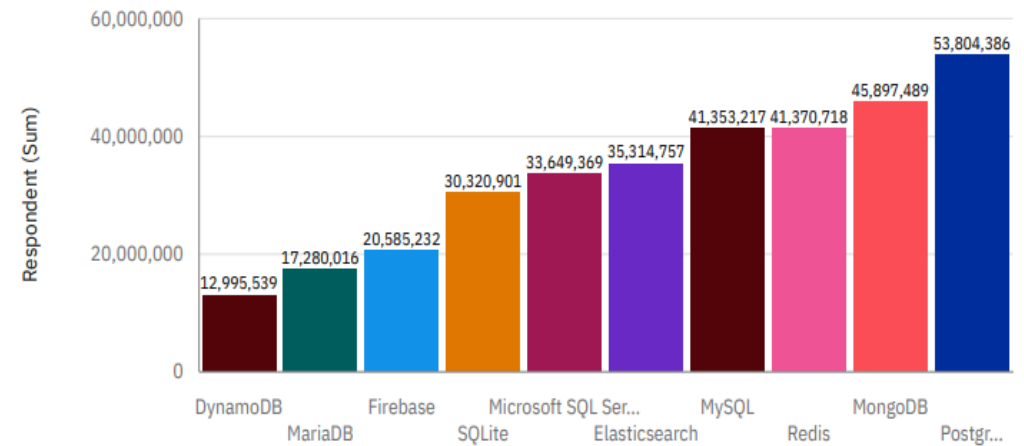
Current Year

Top 10 DatabaseWorkedWith



Next Year

Top 10 DatabaseDesireNextYear



DatabaseDesireNextYear

DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Redis has a large desire in the next year
- PostgreSQL currently second, but has largest desire

Implications

- Competitive advantage to know a less popular database to meet following year's market demand
- PostgreSQL could suffer from slight saturation, however demand is still high

DASHBOARD

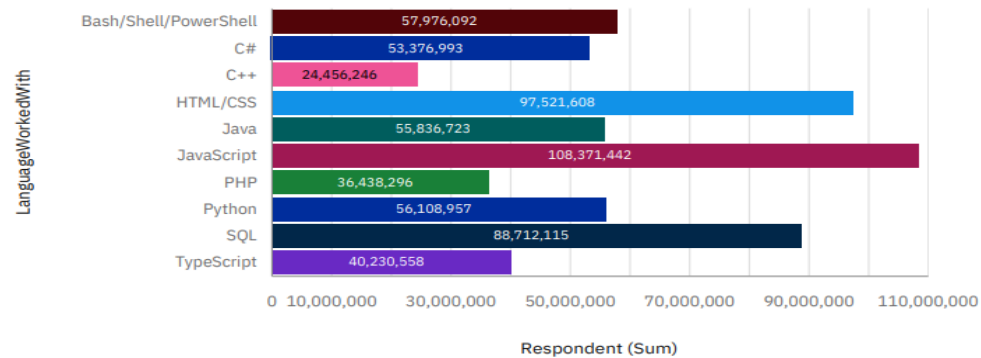


https://github.com/ARomo9/IBM-Coursera-Dashboard/blob/9ffb8aa4f12d572a073bfcc8414de3c1f15e6aeb/IBM_Final_Project.pdf

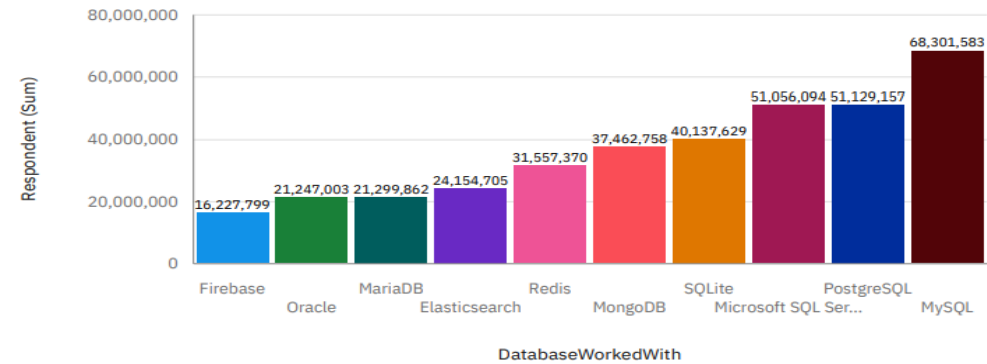
1 - Current Technology Usage

Current Technology Usage

Top 10 LanguageWorkedWith



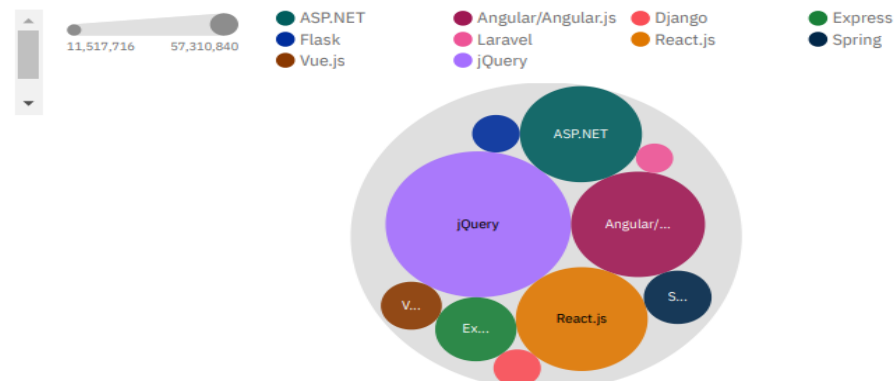
Top 10 DatabaseWorkedWith



PlatformWorkedWith



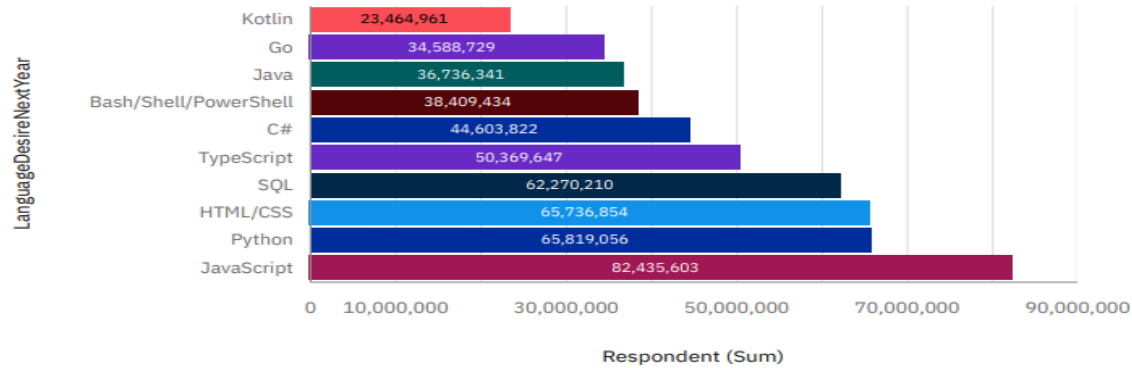
Top 10 WebFrameWorkedWith



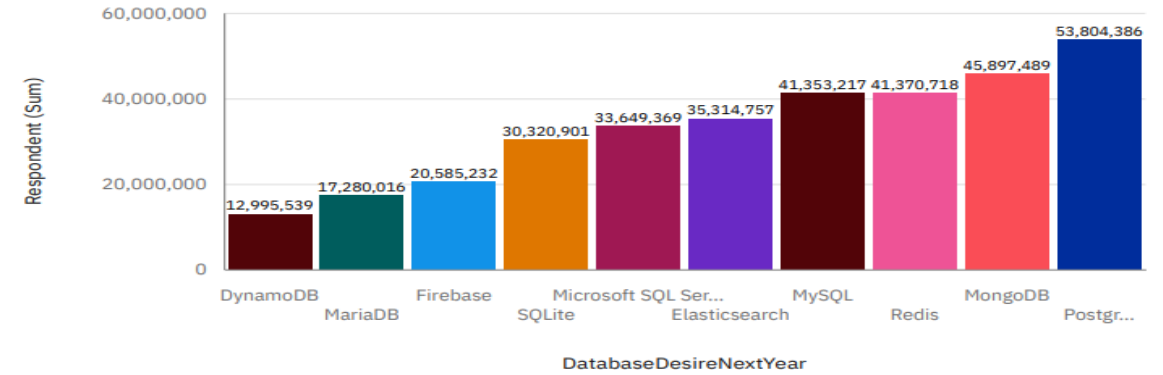
2 -

Future Technology Trend

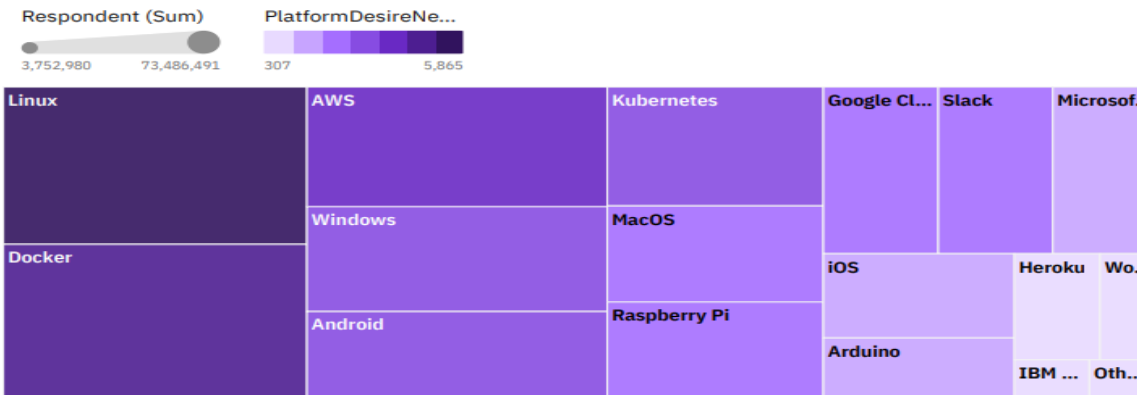
Top 10 LanguageDesireNextYear



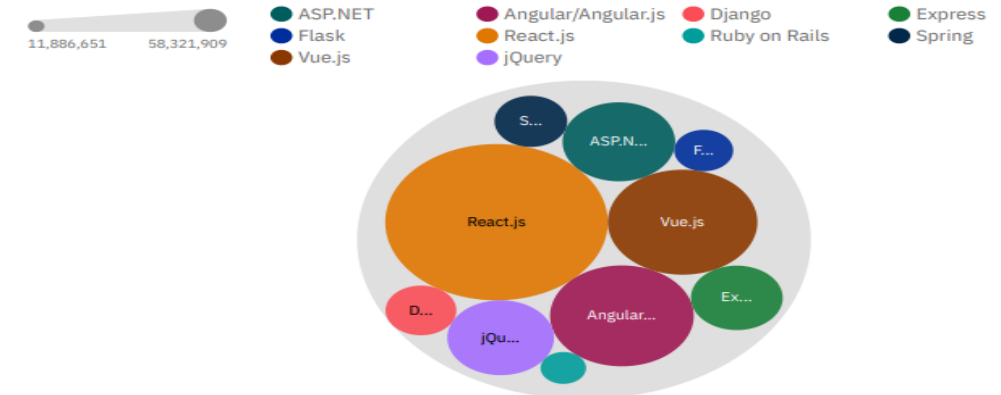
Top 10 DatabaseDesireNextYear



PlatformDesireNextYear



Top 10 WebFrameDesireNextYear

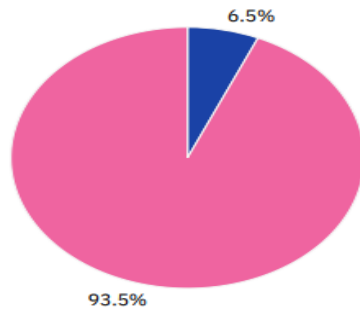


3 -

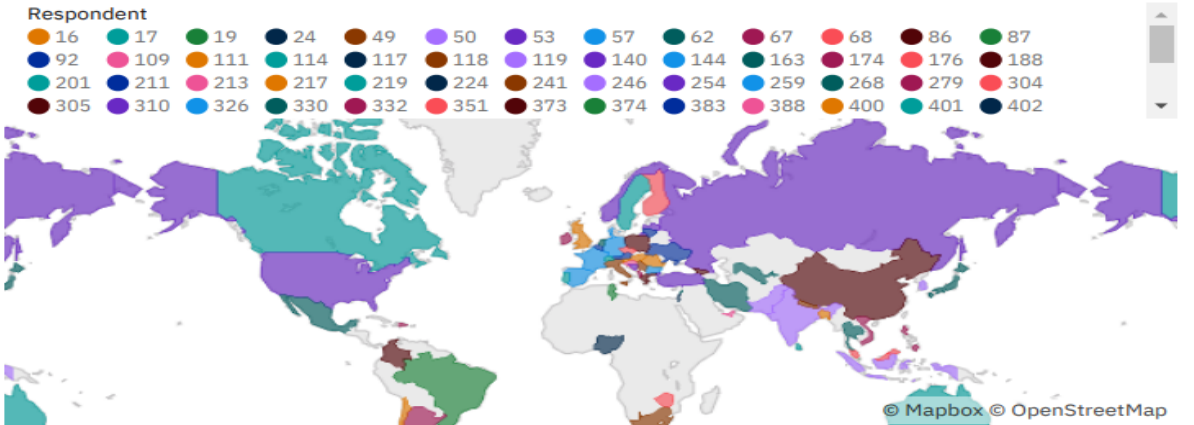
Demographics

Respondent classified by Gender

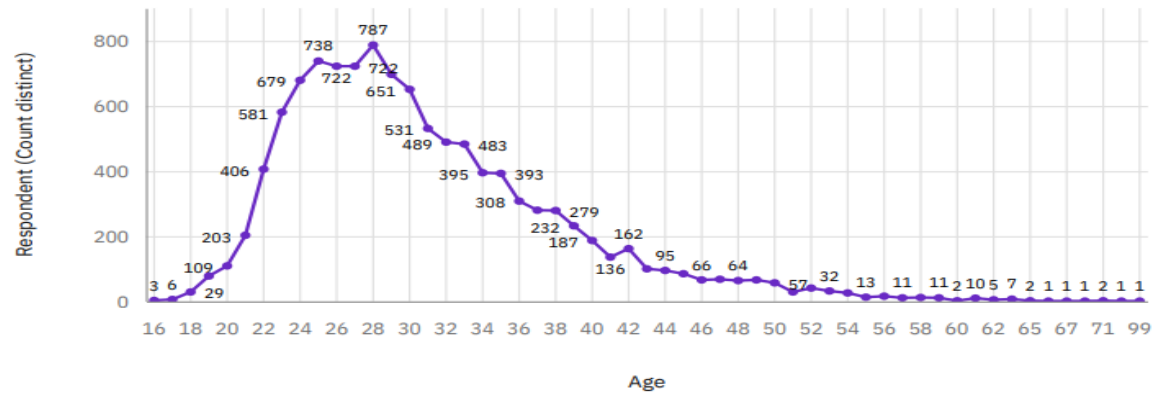
Gender
● Woman ● Man



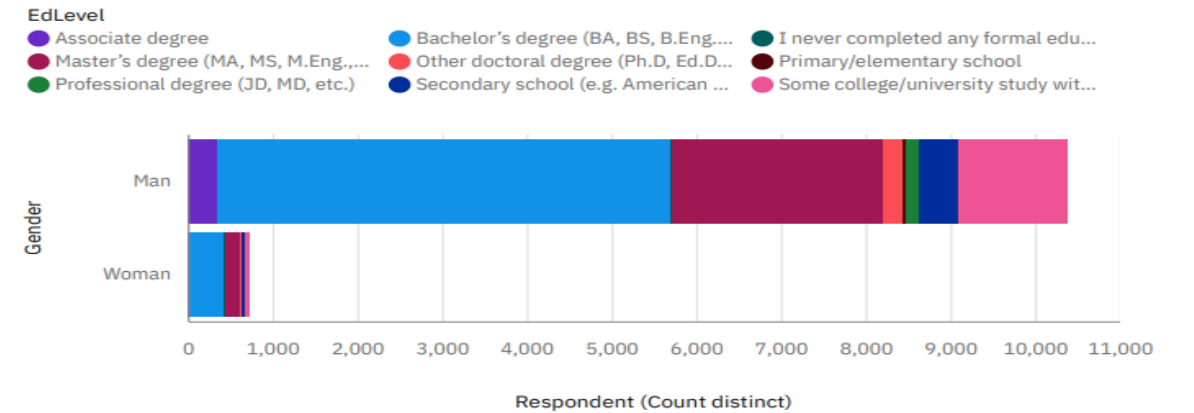
Respondent Count for Countries



Respondent Count by Age



Respondent Count by Gender, classified by Formal Education Level



DISCUSSION

Based on these charts:

- Why do you think JavaScript remains to be a top tier pick?
- What else can we depict from these charts?

OVERALL FINDINGS & IMPLICATIONS

Findings

- Highest remained high in desire
- Lower current have risen in desired
- Lesser of the highest have lowered in desired

Implications

- Its great to have the most popular language and database in skillset
- Trend shows that some lesser picks have risen in desire significantly
- Around the 2nd, 3rd highest current picks lose some desirability

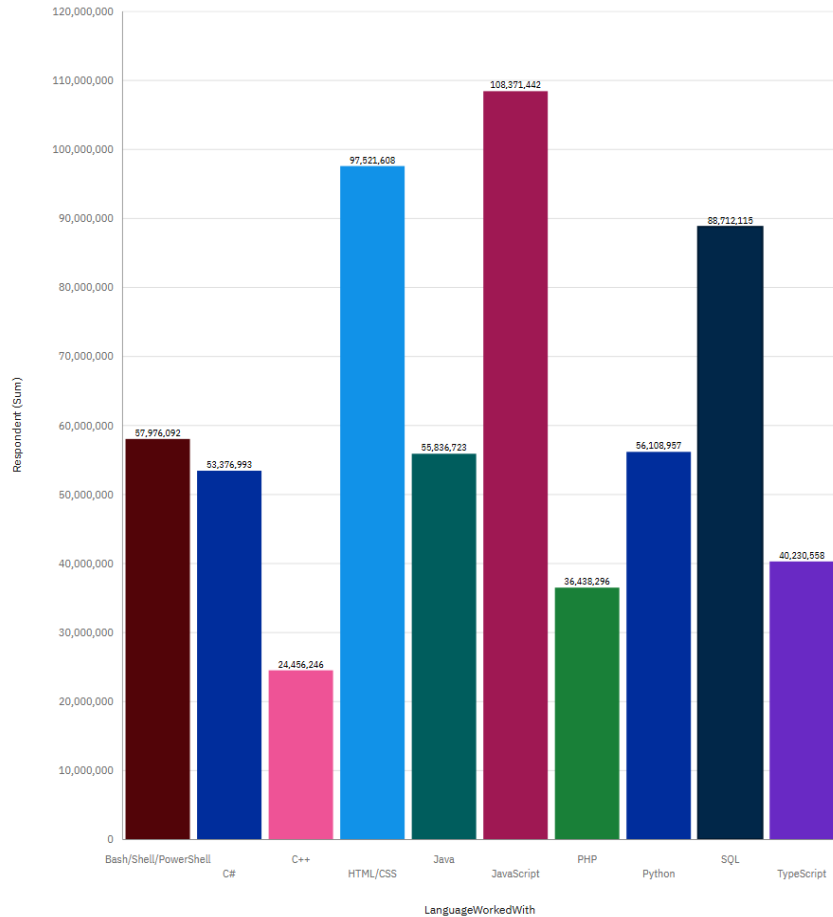
CONCLUSION



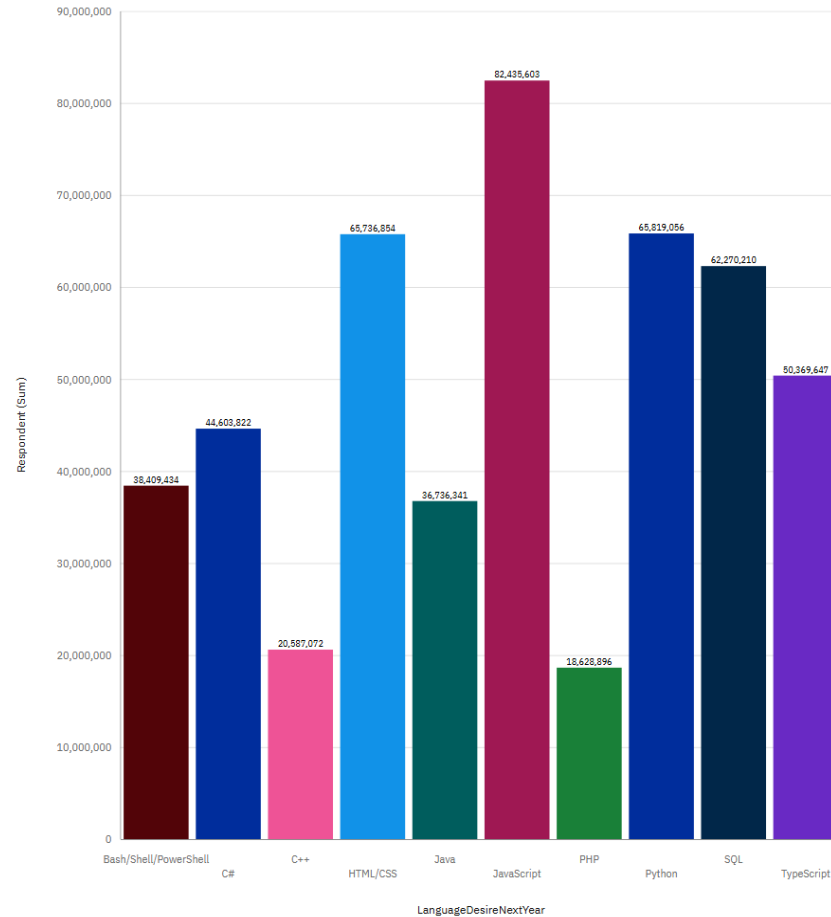
- We have concluded that highest top current languages and databases remained on high desire
- We have also concluded that the many of the highest current for both language and database significantly lower in desired ranking
- Lesser current have risen in desired

APPENDIX

Current Top 10



Desired Based on Current Top 10



- Compared the current languages to their state in the desired
- Can see that Python and TypeScript had the most relative significant gains
- Most others stayed relatively in similar positions