



# Stackoverflow Developer Survey Data Analysis

Olcum, Firat  
June 12, 2022

# OUTLINE



- Executive Summary
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- Methodology
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- Discussion
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# EXECUTIVE SUMMARY



- Relevant skills required in the field of IT and business consulting are ever-changing and evolving
- It is important to identify future skill requirements and trends to keep pace with changing technologies and remain competitive.
- This presentation will show current and future trends in Programming Languages, Databases, Platforms and Webframes.
- Consequently, the aim in identifying future skill requirements and trends is to help the firm make more informed data-driven hiring and budgetary decisions.

# INTRODUCTION



- This presentation has been created for stakeholders and business decision makers within the global IT and business consulting services firm.
- The presentation will help identify future skill requirements in the global IT sector necessary for the firm to keep pace with changing technologies and remain competitive.
- Recommendations will be stated based on the analysis.

# METHODOLOGY



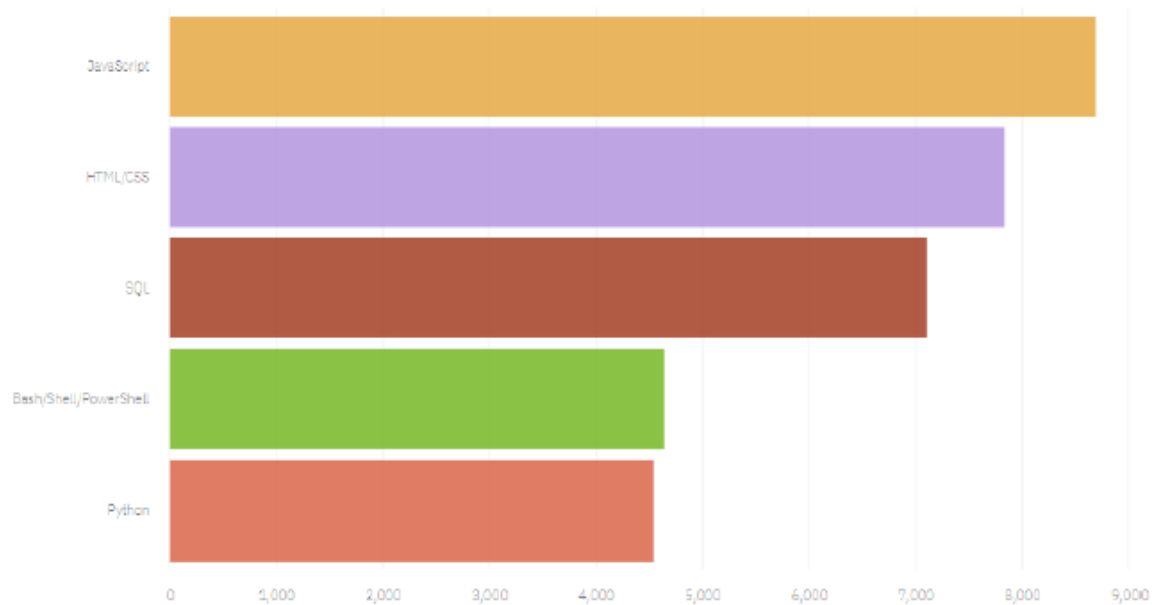
- Using a modified subset of the Stackoverflow dataset, the data was wrangled in order to remove duplicates, impute missing values and normalize data.
- Next, the data underwent exploratory analysis in order to find the distribution of data, presence of outliers and determine the correlation between different columns in the dataset.
- The data was then used to visualize the distribution, the relationship between two features and the composition and comparison of data.
- Finally after downloading two files, which are also a modified subset of the Stackoverflow dataset, Cognos Dashboard Embedded(CDE) was used to create three slides:
  - Current Technology Usage
  - Future Technology Trends
  - Demographics

# RESULTS

# PROGRAMMING LANGUAGE TRENDS

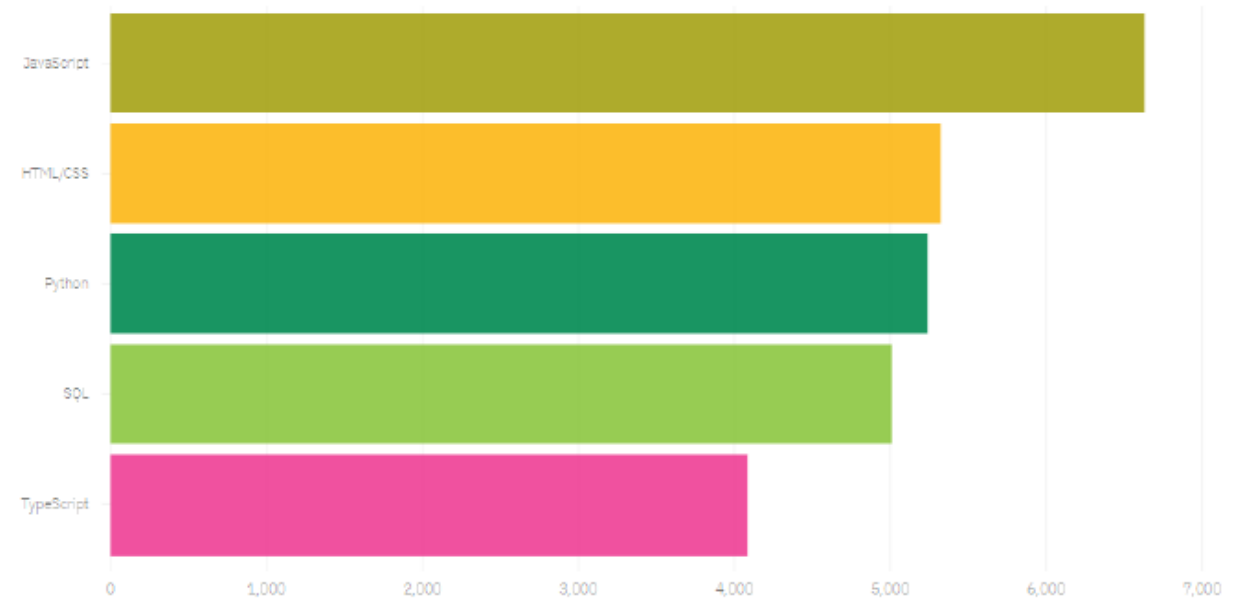
## Current Year

Top 5 Language Worked With



## Next Year

Top 5 Language Desire Next Year



# PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

## Findings

- JavaScript and HTML/CSS continue to be the top two most popular programming languages for this year and next.
- Python and TypeScript have gained more interest for next year.
- Whereas interest in SQL and Bash/Shell/Powershell has decreased.

## Implications

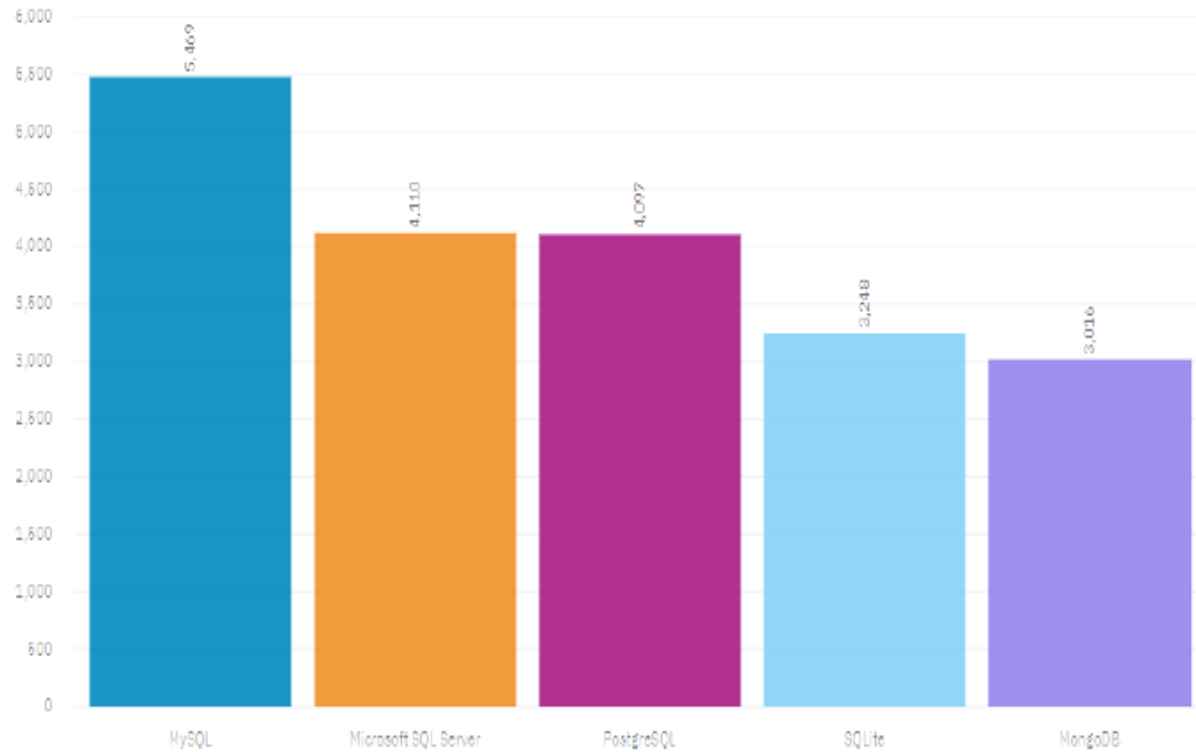
- You can continue to employ a similar number of people skilled in JavaScript and HTML/CSS.
- You can employ more people skilled in Python and Typescript
- You can employ less people skilled in SQL and Bash/Shell/PowerShell.



# DATABASE TRENDS

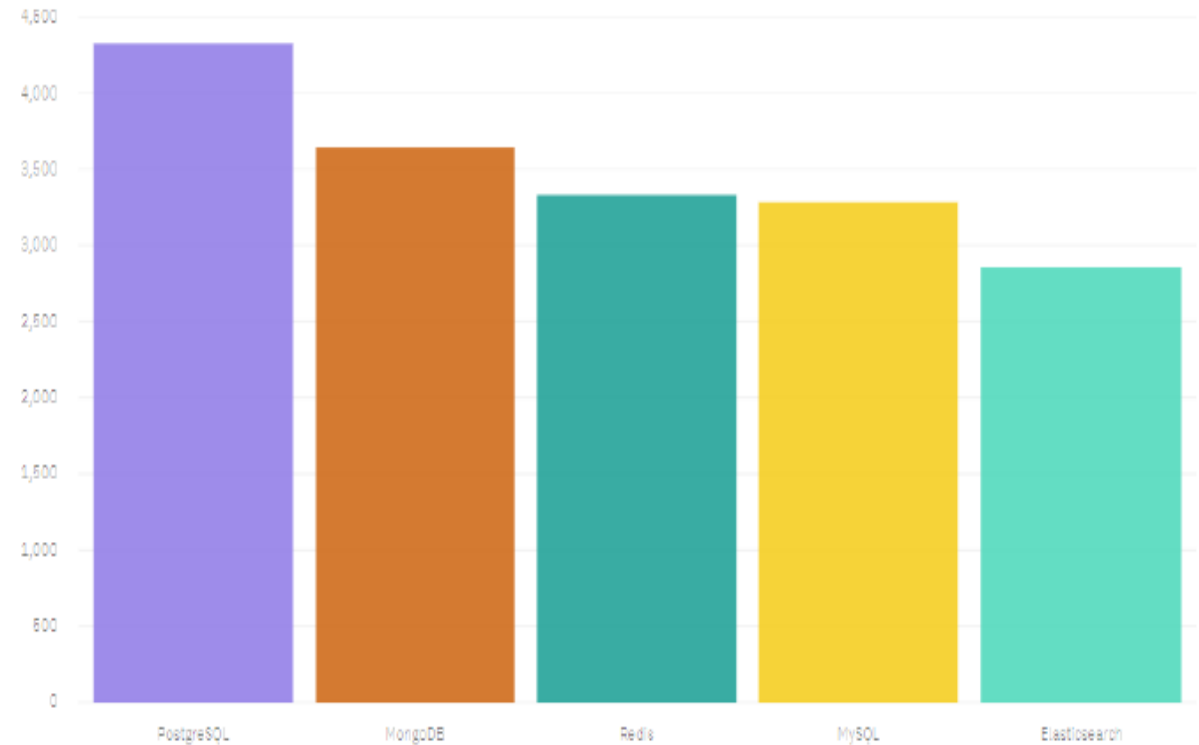
## Current Year

Top 5 Database Worked With



## Next Year

Top 5 Database Desire Next Year



# DATABASE TRENDS - FINDINGS & IMPLICATIONS

## Findings

- Interest in MySQL, Microsoft SQL Server and SQLite has decreased for next year.
- Interest in PostgreSQL and MongoDB have increased compared to the current year.
- There is gained interest in Redis and Elasticsearch for next year.

## Implications

- You can employ less people skilled in MySQL, Microsoft SQL Server and SQLite.
- You can employ more people skilled in PostgreSQL and MongoDB.
- You can employ more people skilled in Redis and Elasticsearch.

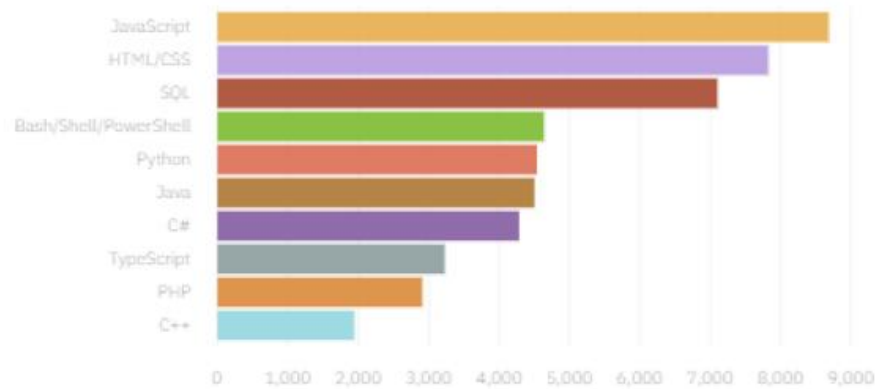
# DASHBOARD



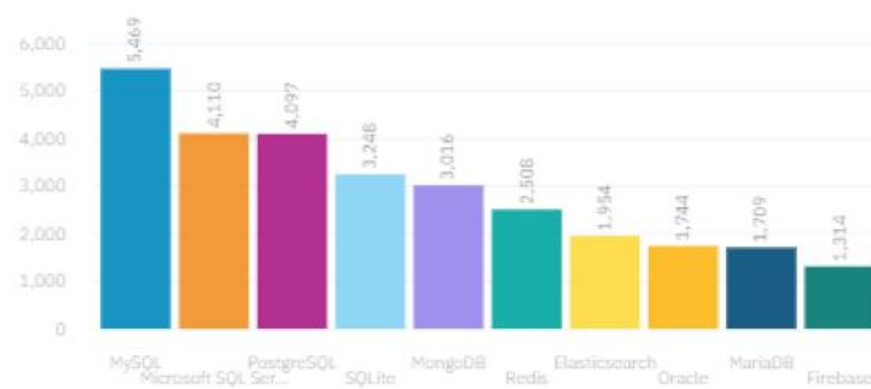
[Click here to view the Cognos Dashboard](#)

# DASHBOARD TAB 1

Top 10 Language Worked With



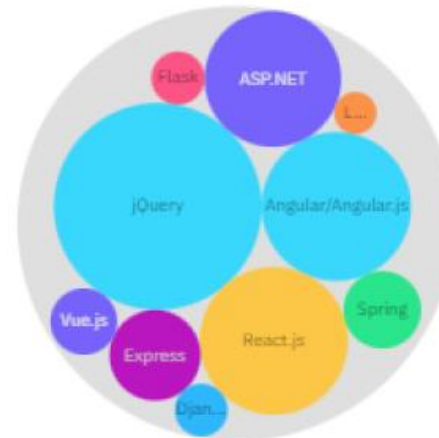
Top 10 Database Worked With



Platform Worked With

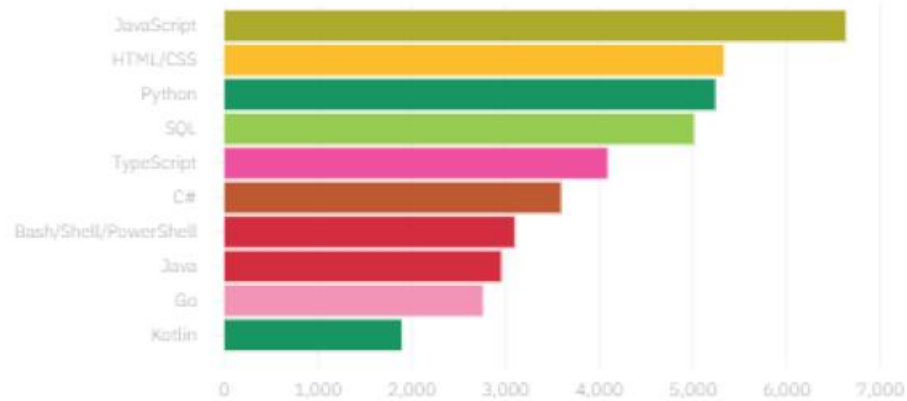


Top 10 Web Frame Worked With

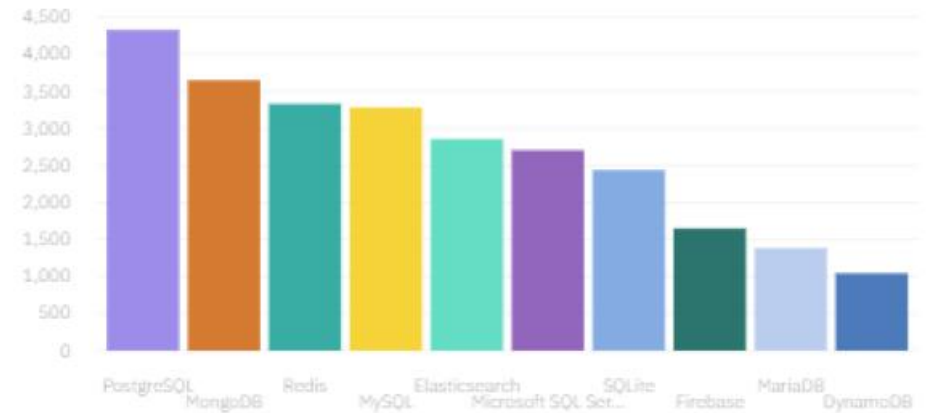


# DASHBOARD TAB 2

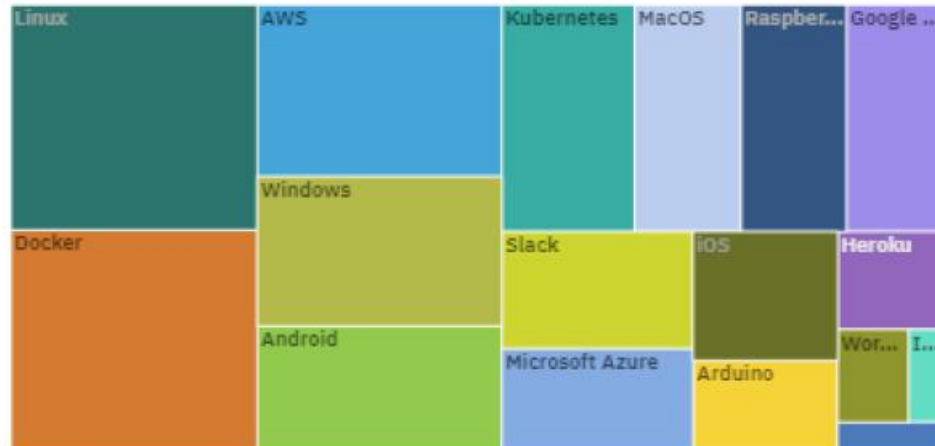
Top 10 Language Desire Next Year



Top 10 Database Desire Next Year



Platform Desire Next Year



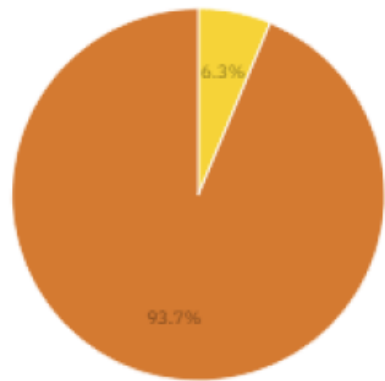
Top 10 Web Frame Desire Next Year



# DASHBOARD TAB 3

## Respondents by Gender

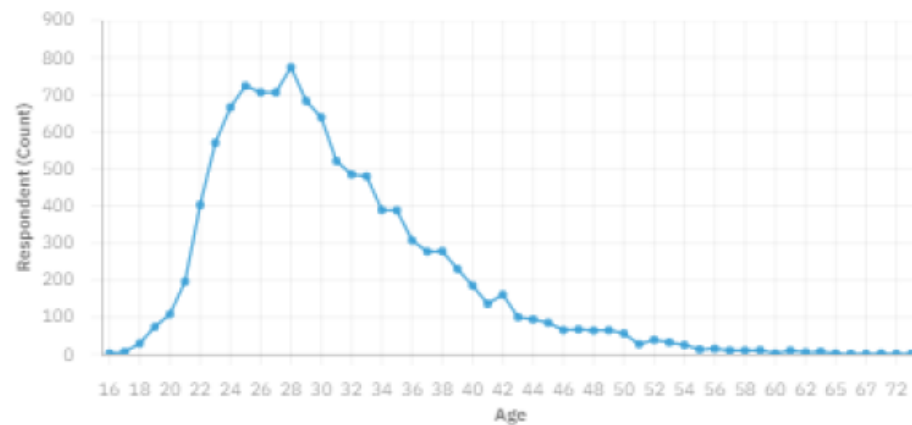
Gender  
● Woman ● Man



## Respondents by Country

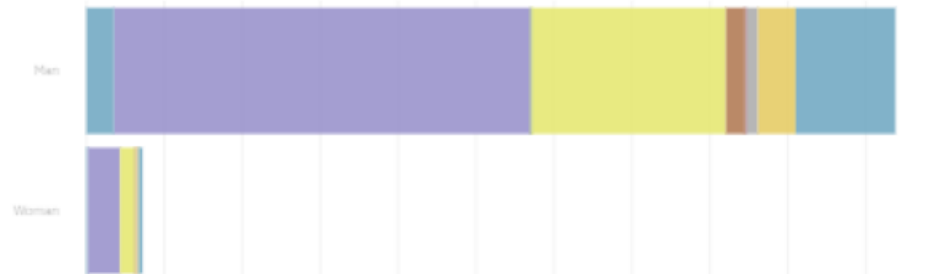


## Respondents by Age



## Respondent Count by Gender, classified by Formal Education Level

EdLevel  
● Associate degree ● Bachelor's degree (BA, BS, B.E...  
● I never completed any formal ... ● Master's degree (MA, MS, M.E...  
● Other doctoral degree (Ph.D. E... ● Primary/elementary school



# DISCUSSION



# OVERALL FINDINGS & IMPLICATIONS

## Findings

- More than 90 percent of those surveyed are men.
- The average age of the respondents is 30.
- Typescript is gaining significant interest and Python continues to grow as well.
- Redis, Elasticsearch, PostgreSQL and MongoDB are gaining more interest.
- Interest Slack and Windows is dropping significantly.
- Vue.js is gaining substantial interest and React.js continues to grow as well.

## Implications

- The software space continues to be male-dominated.
- It still seems difficult to find highly experienced personnel in the field of development.
- You can continue to staff enough Javascript and HTML/CSS but employ more people skilled in Python and Typescript.
- You can employ more people skilled in PostgreSQL, MongoDB, Elasticsearch, and Redis.
- You can continue to staff enough ASP.NET but employ more people skilled in Vue.js and React.js.
- You can continue to staff enough Linux, employ more people skilled in Docker, AWS and Android, but make reductions to Slack and Windows.

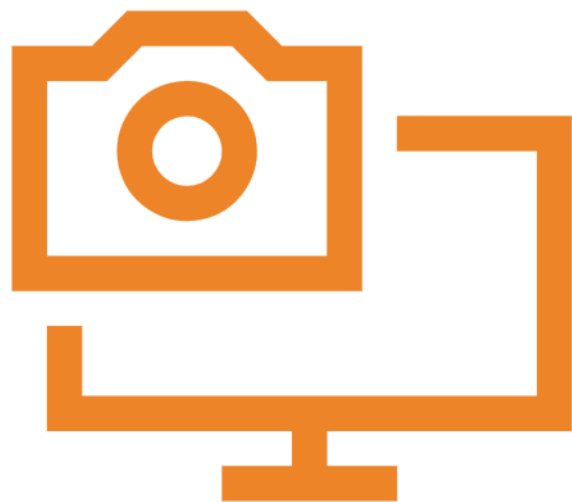


# CONCLUSION

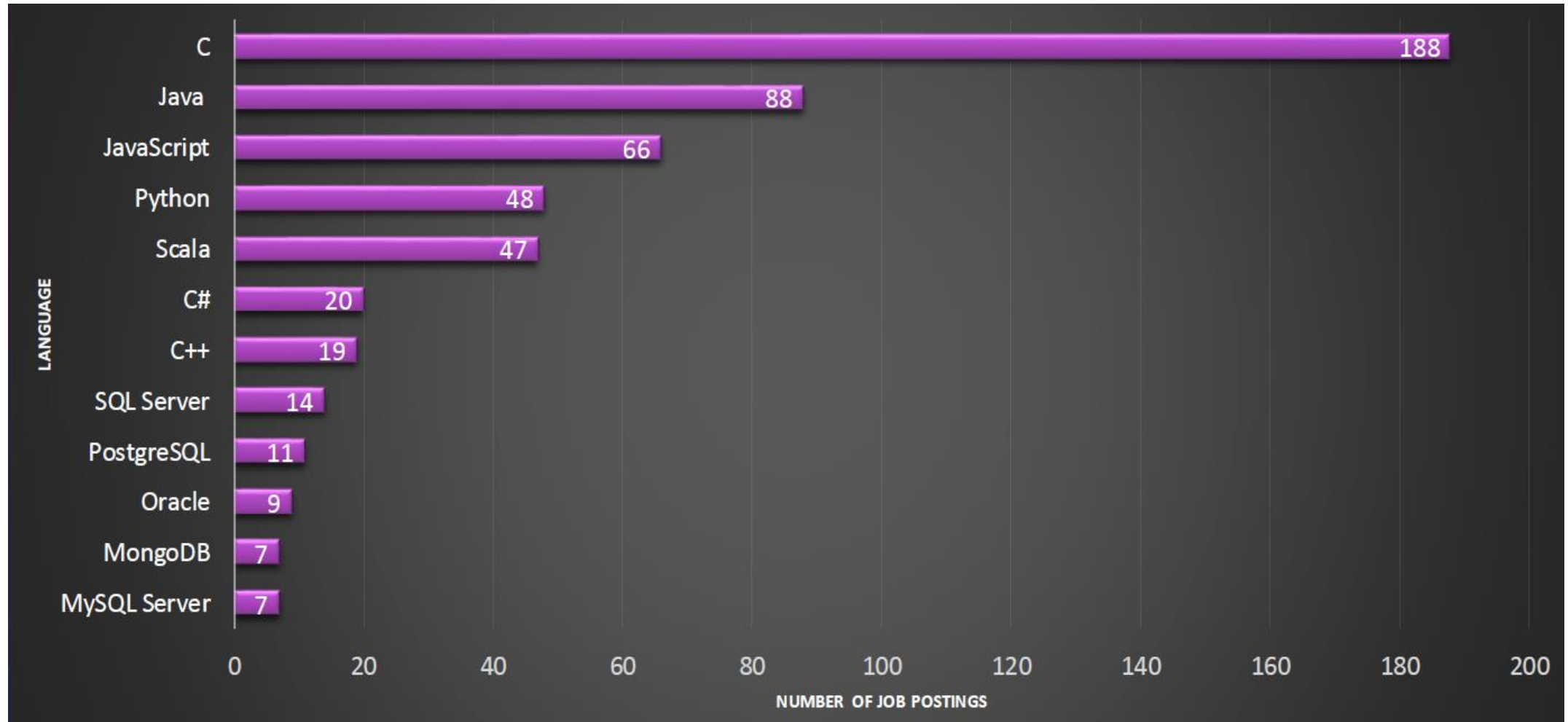


- You can make adjustments in staff for those skills no longer in demand.
- You can carve out budget in order to hire additional staff with skills needed to fill any gaps.
- You can set aside budget or put a program in place to upskill those already employed.

# APPENDIX



# JOB POSTINGS



# POPULAR LANGUAGES

