

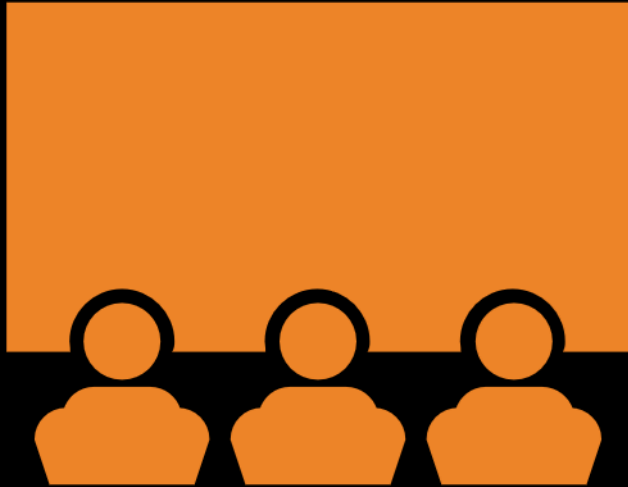


# STACK OVERFLOW DEVELOPER SURVEY 2019

*Laid ATTIA*

*November 22, 2022*

# OUTLINE



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

# EXECUTIVE SUMMARY



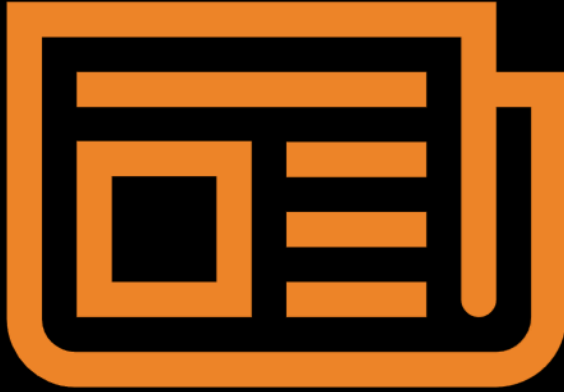
- Relevant skills required in the field of IT and business consulting are ever-changing and evolving.
- It is important to identify future skill requirements and trends to keep pace with changing technologies and remain competitive.
- This presentation will show current and future trends in Programming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

# 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



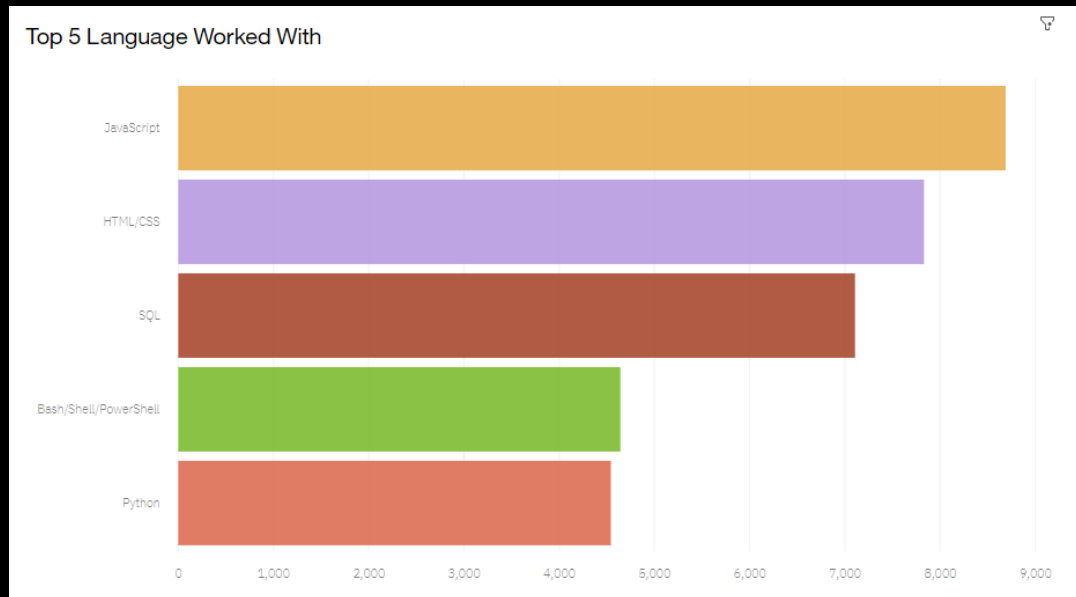
- Using a modified subset of the Stack Overflow dataset<sup>1</sup>, the data was wrangled in order to remove duplicates, impute missing values and normalize data.
- Next, the data underwent exploratory analysis in order to find the distribution of data, presence of outliers and determine the correlation 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<sup>2</sup>, which are also a modified subset of the Stack Overflow dataset, Cognos Dashboard Embedded (CDE) was used to create the “Current Technology Usage”, “Future Technology Trends” and “Demographics” slides.
- Appendix
  - To obtain average annual salaries web scraping was used to extract information from a website then saved to a csv file.

# RESULTS

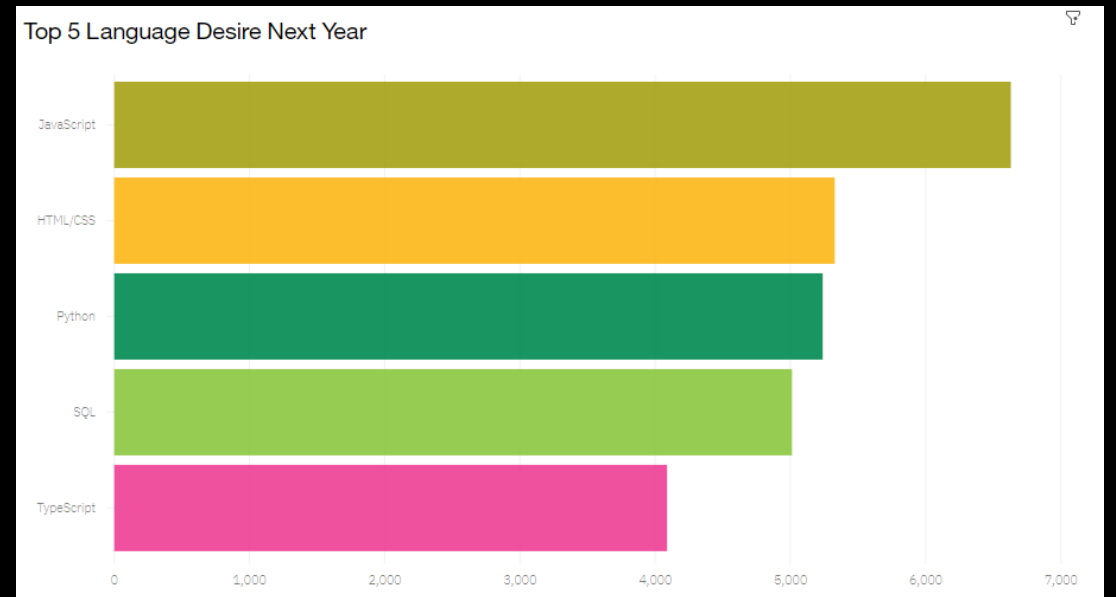
A thin, vertical pink line is positioned to the right of the word 'RESULTS', extending from the top of the text area down to the bottom of the slide.

# PROGRAMMING LANGUAGE TRENDS

Current Year  
Year



Next



# PROGRAMMING LANGUAGE TRENDS- FINDINGS & IMPLICATIONS

## Finding s

- 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.

## Implicatio

1

Continue to employ a similar number of people skilled in JavaScript and HTML/CSS.



2

Employ more people skilled in Python and TypeScript.



3

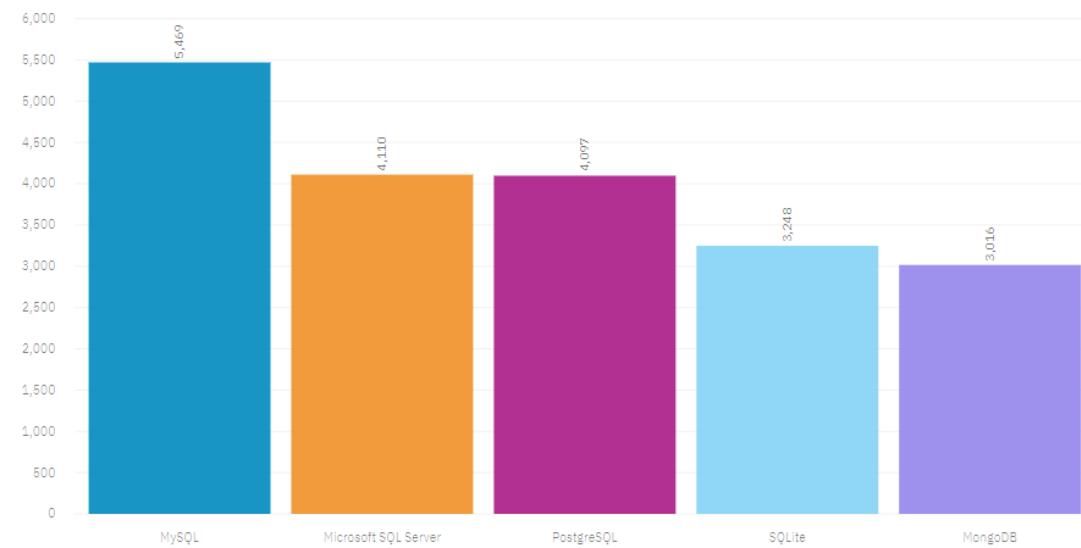
Employ less people skilled in SQL and Bash/Shell/PowerShell.



# DATABASE TRENDS

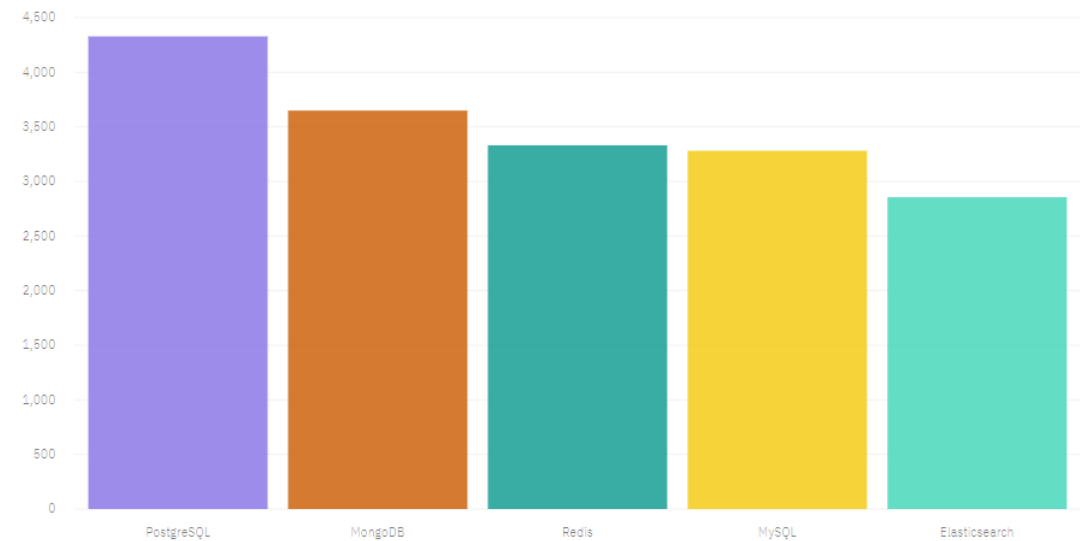
Current  
Year

Top 5 Database Worked With



Next  
Year

Top 5 Database Desire Next Year



# DATABASETRENDS- FINDINGS & IMPLICATIONS

## Finding s

- 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.

## Implicatio

1

Employ less people skilled in MySQL, Microsoft SQL Server and SQLite.



2

Employ more people skilled in PostgreSQL and MongoDB.



3

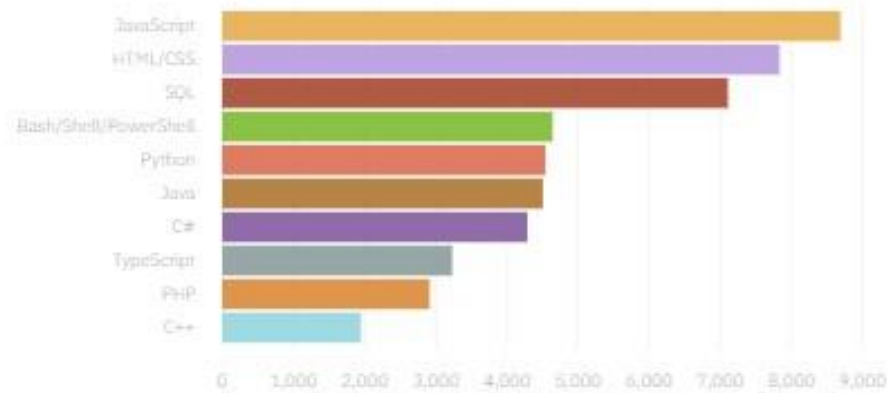
Employ more people skilled in Redis and Elasticsearch.

# DASHBOARD

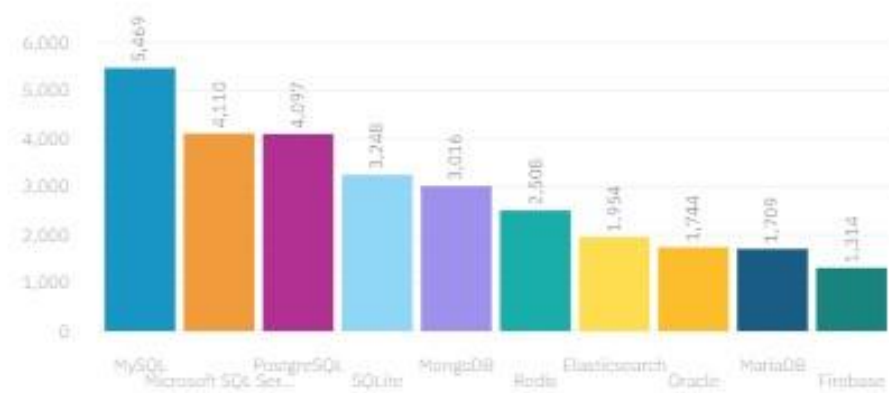


Click [here](#) to view  
the Cognos  
dashboard

Top 10 Language Worked With



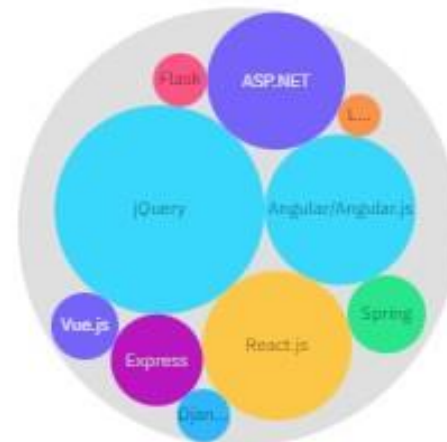
Top 10 Database Worked With



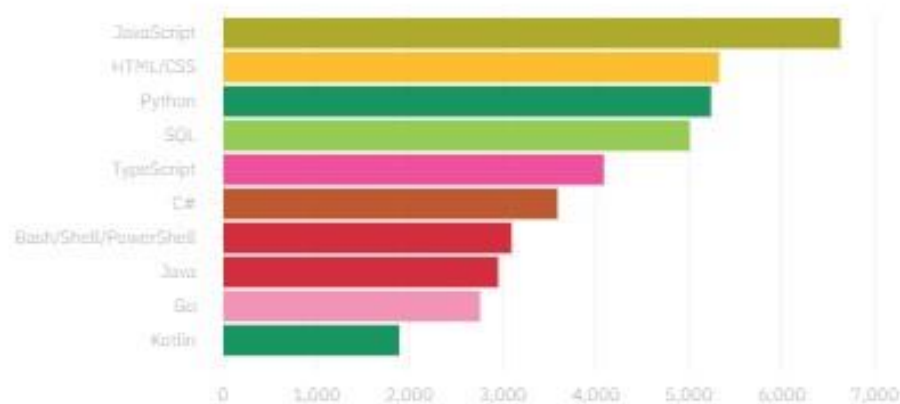
Platform Worked With



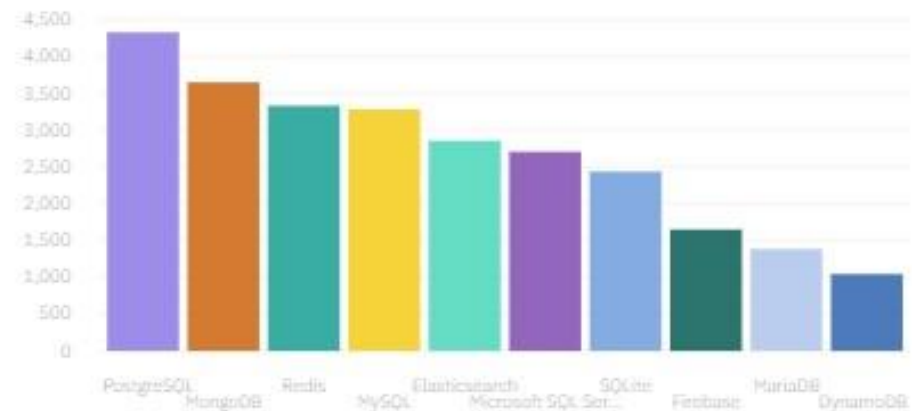
Top 10 Web Frame Worked With



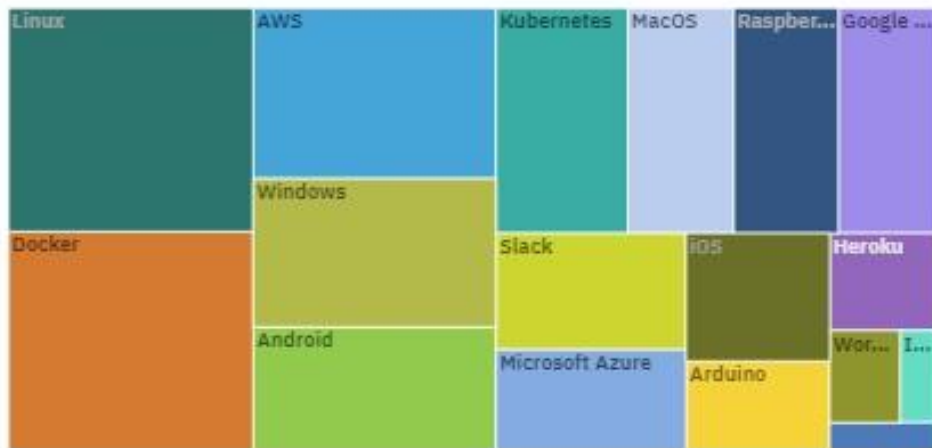
### Top 10 Language Desire Next Year



### Top 10 Database Desire Next Year



### Platform Desire Next Year

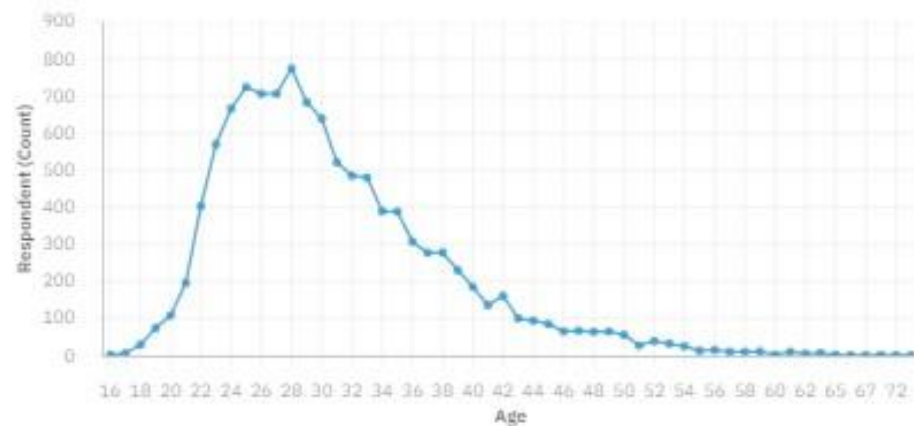
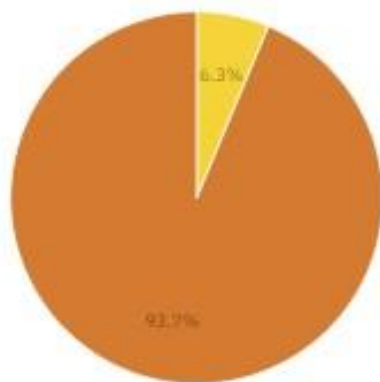


### Top 10 Web Frame Desire Next Year

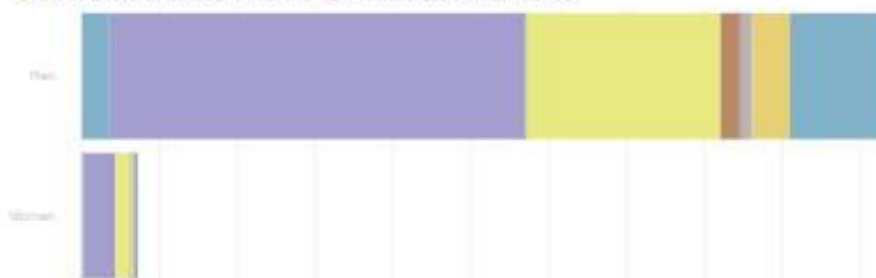




● Woman ● Man



● 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





# OVERALL FINDINGS & IMPLICATIONS

## Finding s

- Programming Languages - TypeScript is gaining significant interest and Python continues to grow as well.
- Databases - Redis, Elasticsearch, PostgreSQL and MongoDB are gaining more interest.
- Platforms - Interest Slack and Windows is dropping significantly.
- WebFrames - Vue.js is gaining substantial interest and React.js continues to grow as well.

## Implications

1

Continue to staff enough JavaScript and HTML/CSS but employ more people skilled in TypeScript and Python.

2

Employ more people skilled in Redis, Elasticsearch, PostgreSQL and MongoDB.

3

Continue to staff enough ASP.NET but employ more people skilled in Vue.js and React.js.

4

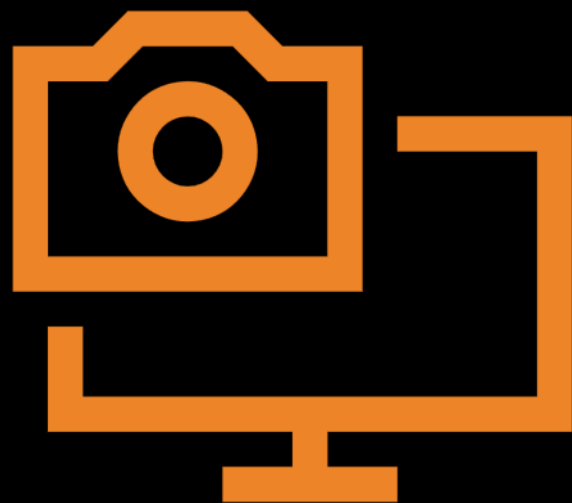
Continue to staff enough Linux, employ more people skilled in Docker, AWS and Android, but make reductions to Slack and Windows.



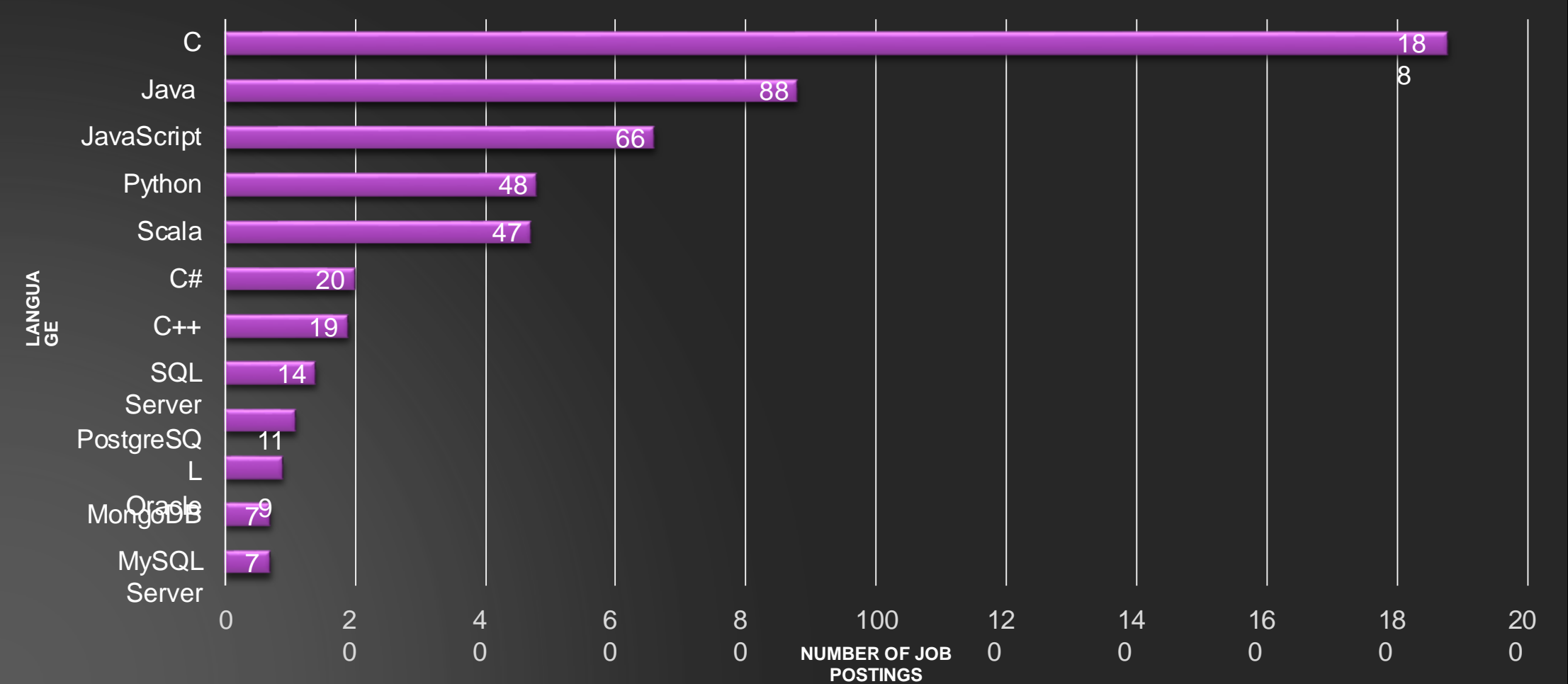
# CONCLUSION



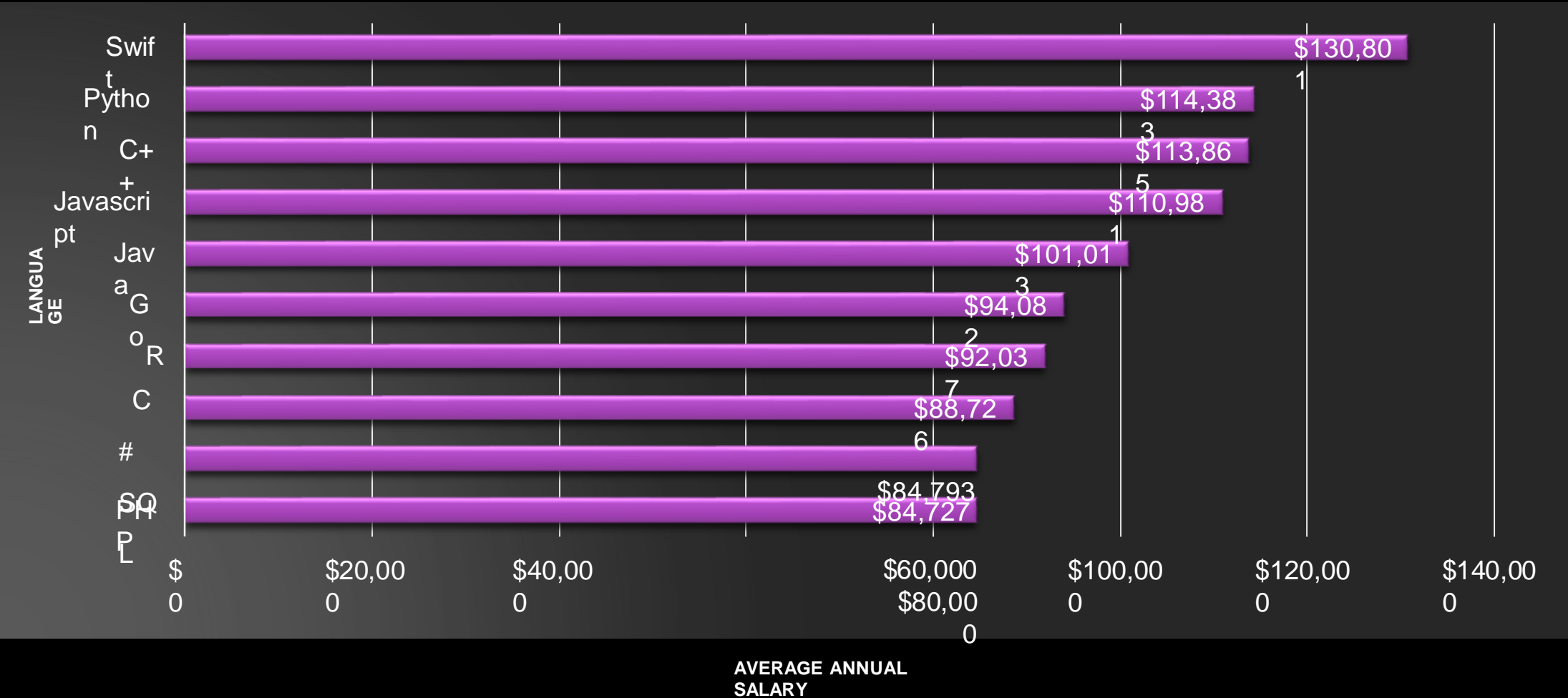
1	Carve out budget in order to hire additional staff with skills needed to fill any gaps.
2	Set aside budget or put a program in place to upskill those already employed.
3	Make adjustments in staff for those skills no longer in demand.



# GITHUB JOB POSTINGS



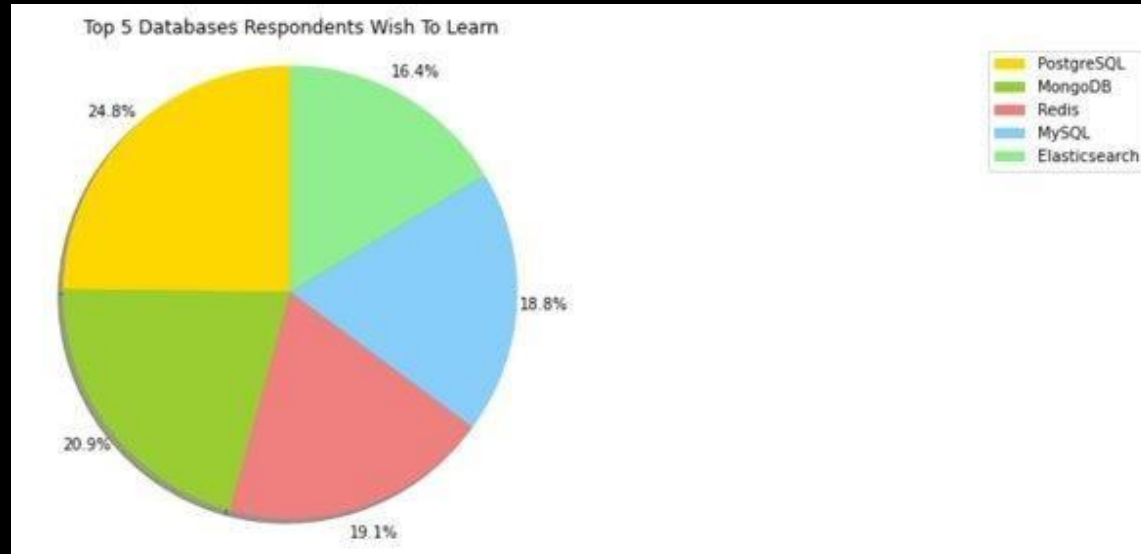
# POPULAR LANGUAGES



# RESOUR CE

1. <https://stackoverflow.blog/2019/04/09/the-2019-stack-overflow-developer-survey-results-are-in/>
2. [m5\\_survey\\_data\\_demographics.csv](#) and [m5\\_survey\\_data\\_technologies\\_normalised.csv](#)
3. <https://jobs.github.com/api>
4. *github-job-postings.xlsx*
5. [https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBM-DA0321EN- SkillsNetwork/labs/datasets/Programming\\_Languages.html](https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBM-DA0321EN-SkillsNetwork/labs/datasets/Programming_Languages.html)

# ADDITIONAL VISUALS



Box Plot of Age of Survey

