



# STACK OVERFLOW DEVELOPER SURVEY 2019 CAPSTONE

Ayoub Ouakani  
10/04/2022

# OUTLINE



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



# EXECUTIVE SUMMARY



- The correlation between the progress of the IT Field and the skills required to keep up with it is ever-evolving and increasing exponentially
- In order to stay in the competition of constant IT evolution it is imperative to identify, understand and target the rising trends and skill requirements in demand
- 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 decisions.

# INTRODUCTION



- This presentation's goal is to identify and quantify future skill requirements based on the survey, in order to understand what is necessary to keep pace with the constant change and progress and technologies and remain competitive in the IT field
- It is delivered to stakeholders and decision makers within the domain of IT and consulting firms



# METHODOLOGY



- Data Collection
- Data Exploration ( EDA )
- Data Cleaning
- Data Visualization
- Presentation

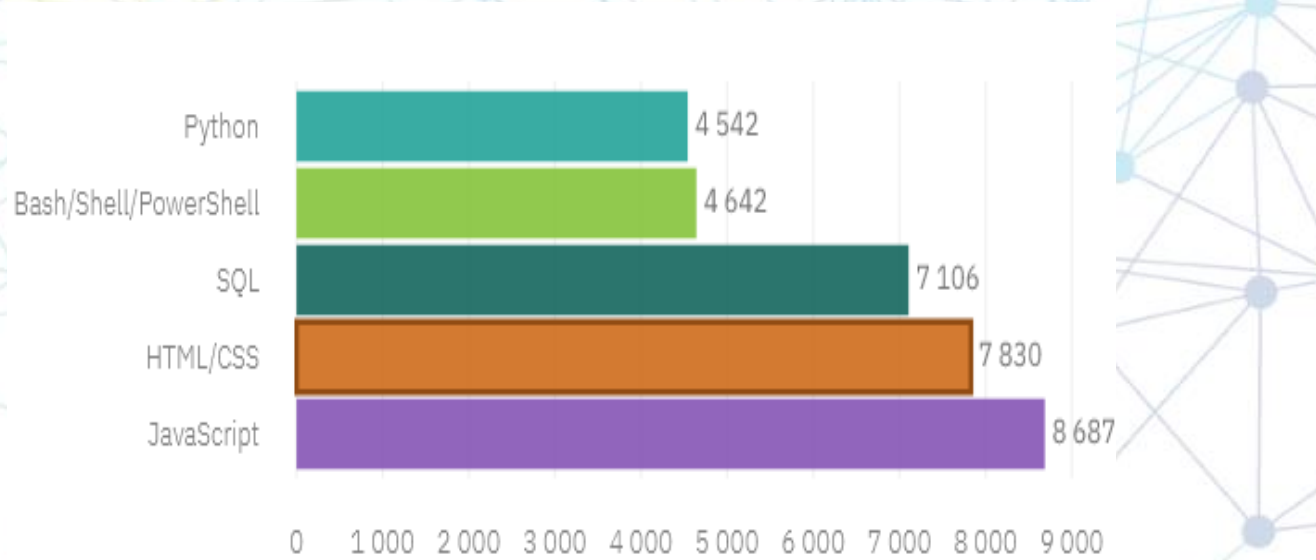
A background image featuring a complex network graph. The graph consists of numerous small, semi-transparent circular nodes connected by thin, light blue lines. The nodes are distributed across the frame, with a higher density on the left side where they are colored yellow and green, and a more sparse distribution on the right side where they are colored blue and purple. The overall effect is a sense of interconnectedness and data flow.

# RESULTS

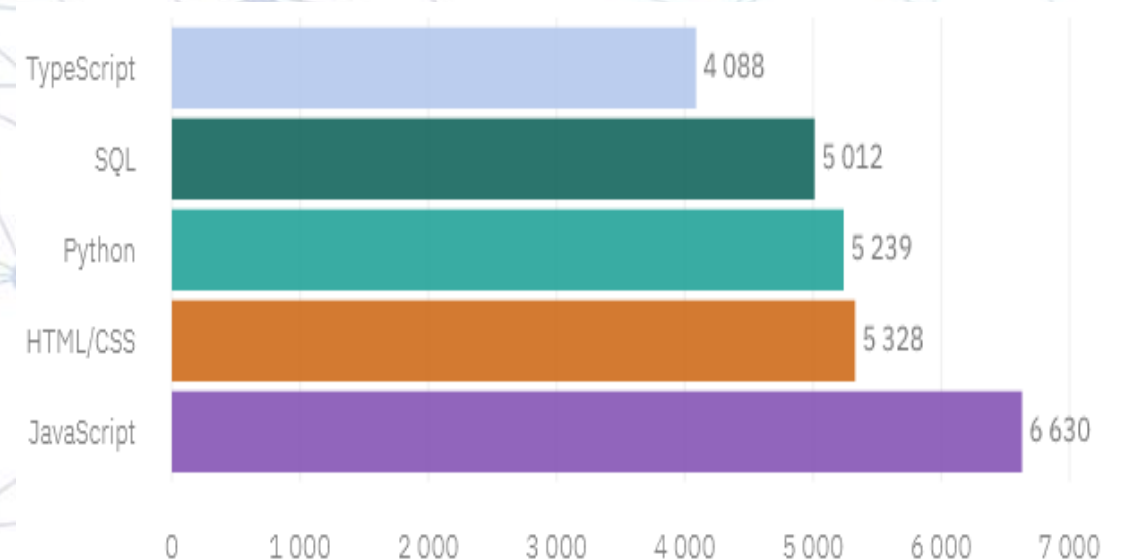


# PROGRAMMING LANGUAGE TRENDS

**Top 5 most used languages  
in the Current Year**



**Top 5 most desired  
languages for the Next Year**



# PROGRAMMING LANGUAGE TRENDS

## FINDINGS & IMPLICATIONS

### Findings

The interest in JavaScript & HTML/CSS remains to be high

Python and TypeScript gained more interest and demand

The interest and demand for SQL and Bash/Shell/PowerShell has weakened

### Implications

Continue to employ people with a strong specialization in JavaScript & HTML/CSS

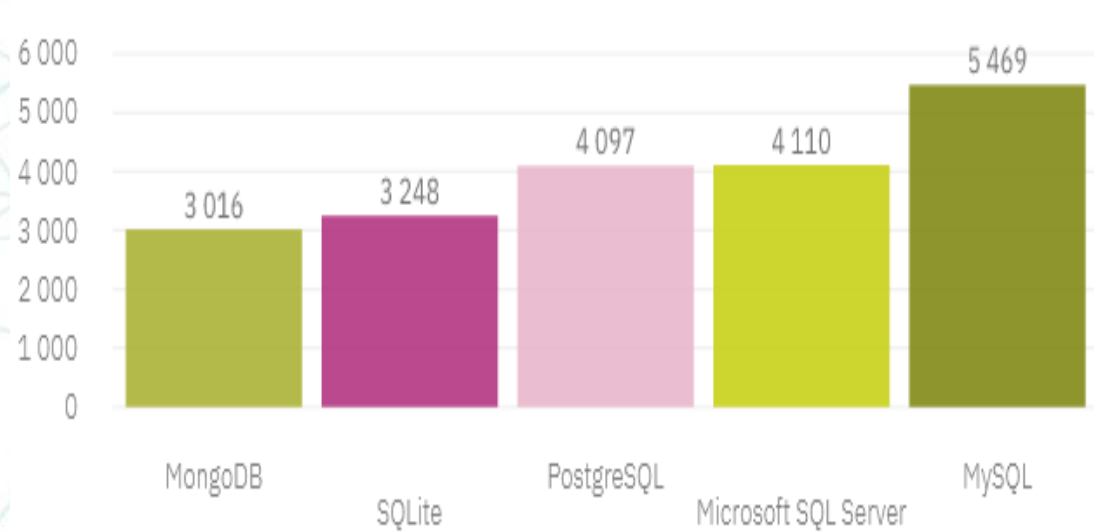
Employ more people skilled in Python and TypeScript

Reduce interest in people skilled in SQL and Bash/Shell/PowerShell

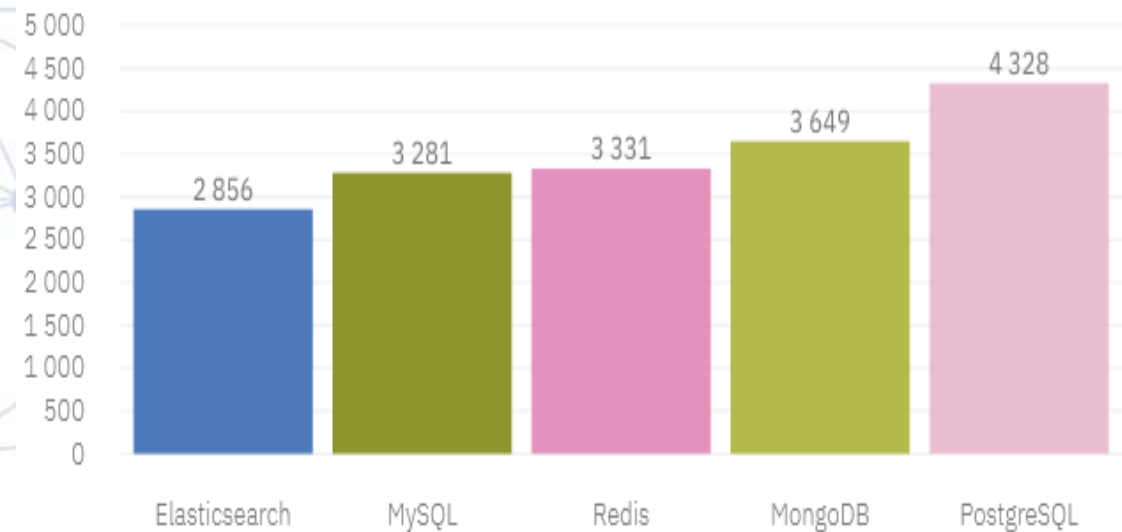


# DATABASES LANGUAGE TRENDS

**Top 5 most used Databases  
in the Current Year**



**Top 5 most desired  
Databases for the Next Year**



# DATABASES TRENDS FINDINGS & IMPLICATIONS

## Findings

Interest in MySQL, Microsoft SQL Server and SQLite has decreased for next year

On the other hand the opposite for PostgreSQL and MongoDB it increased

A startup interest in Redis and Elasticsearch for next year

## Implications

Continue to employ people with a specialization in PostgreSQL and MongoDB and MySQL



Employ less people skilled in Microsoft SQL Server and SQLite



Start noticing and employing people skilled in Redis and Elasticsearch





Dashboard LINK : [Here](#)



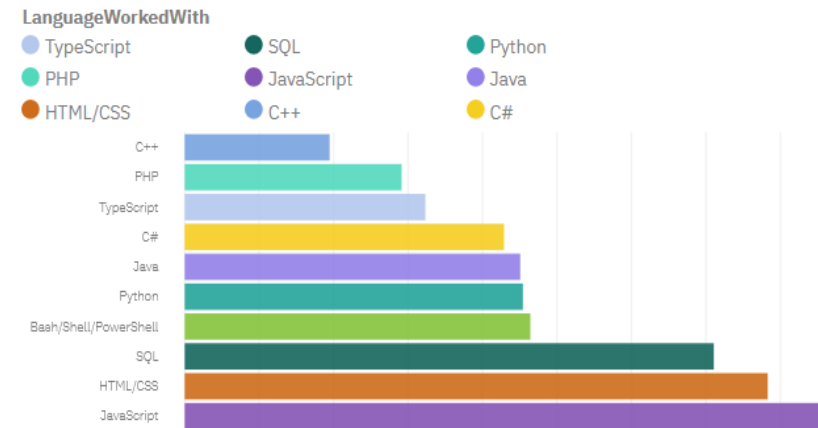
# DASHBOARD TAB 1

## Current Technology Usage

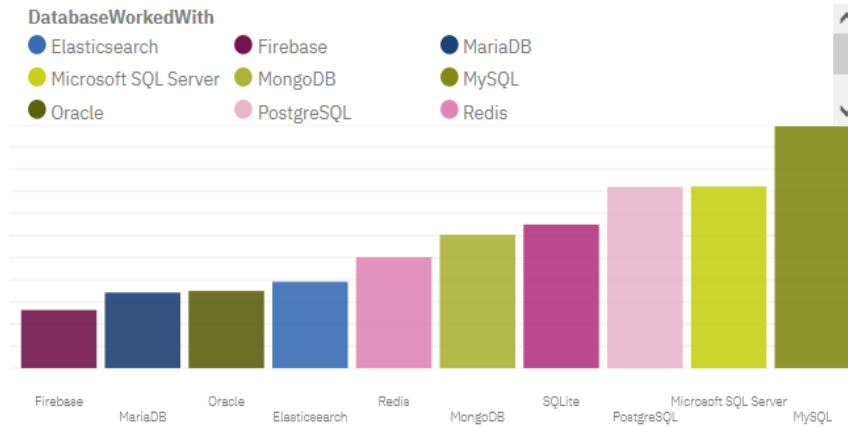
## Future Technology Trend

## Demographics

### Top 10 Languages Worked With



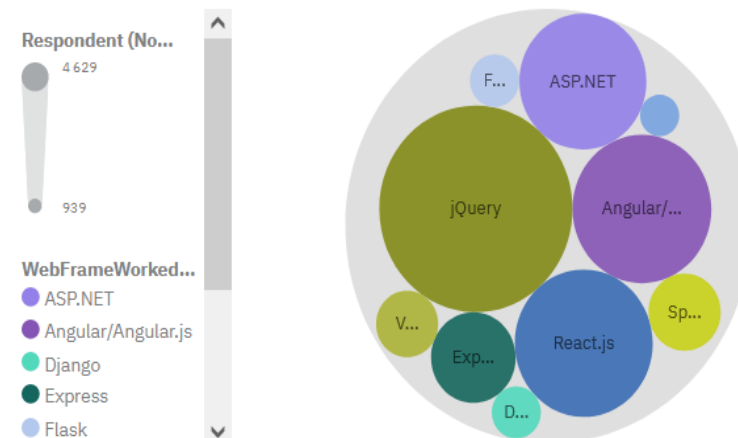
### Top 10 Databases Worked With



### Platform Worked With



### Top 10 WebFrame Worked With





# DASHBOARD TAB 2

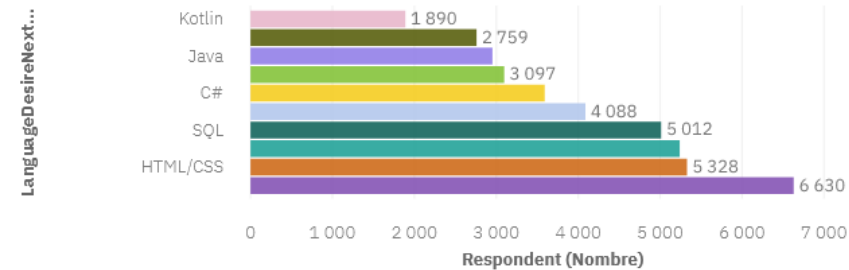
Current Technology Usage

Future Technology Trend

Demographics

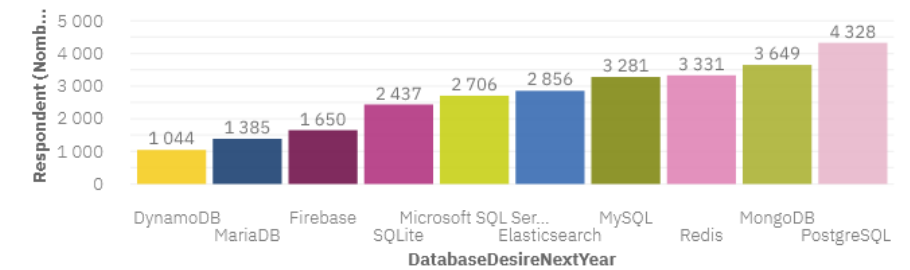
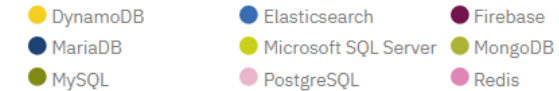
## Top 10 Languages Desired Next Year

LanguageDesireNextYear

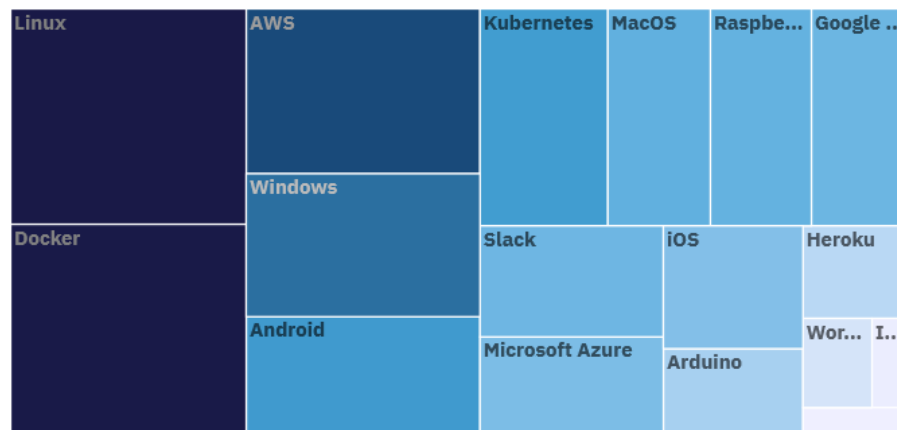


## Top 10 Databases Worked With

DatabaseDesireNextYear



## Platform Desired Next Year

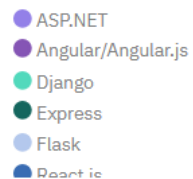


## Top 10 WebFrames Desired Next Year

Respondent (No...)



WebFrameDesireN...



# DASHBOARD TAB 3

Current Technology Usage

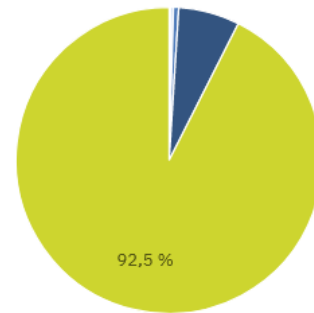
Future Technology Trend

Demographics

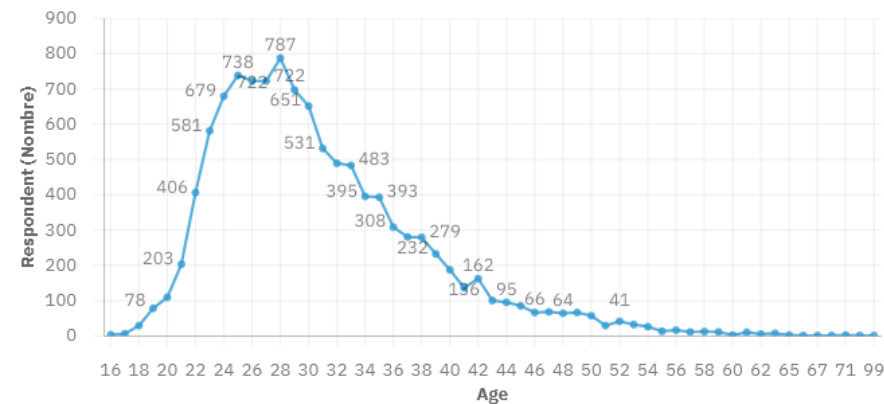
## Respondent classified by Gender

Gender

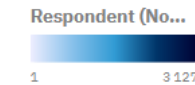
- Woman;Man;Non-binary, genderqueer, or g...
- Woman;Non-binary, genderqueer, or g...
- Non-binary, genderqueer, or g...
- Woman;Man
- Man;Non-binary, genderqueer,...
- Woman



## Respondent Count by Age



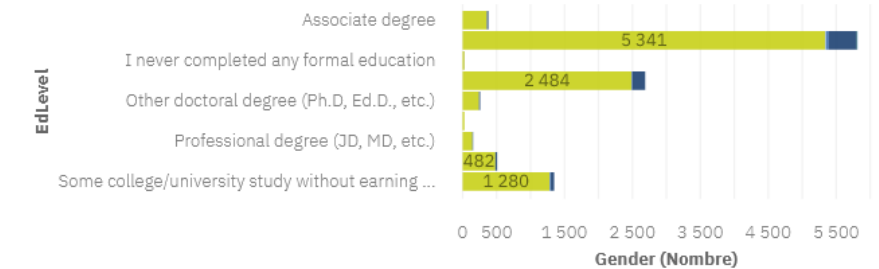
## Respondent Count for Countries



## Respondent Count by Gender,by Formal Education Level

Gender

- Man
- Man;Non-binary, genderqueer,...
- Non-binary, genderqueer, or g...
- Woman
- Woman;Man
- Woman;Man;Non-binary, gend...







**Discussion**

# OVERALL FINDINGS & IMPLICATIONS

## Findings :

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

Continue to employed workers skilled in JavaScript and HTML/CSS, and focus on TypeScript and Python



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



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



Employ more people skilled in Docker, AWS and Android, but make reductions to Slack and Windows





1

Dedicate means and time into qualifying and training current employees to fill the gap in their skills and keep up with the demand ( Up-skilling )

2

Make the recruitment strategy more adapted to the coming demanded skills to remain in the competitive business or IT

3

Actions to be taken in order to make the IT field more suitable and desirable for women

4

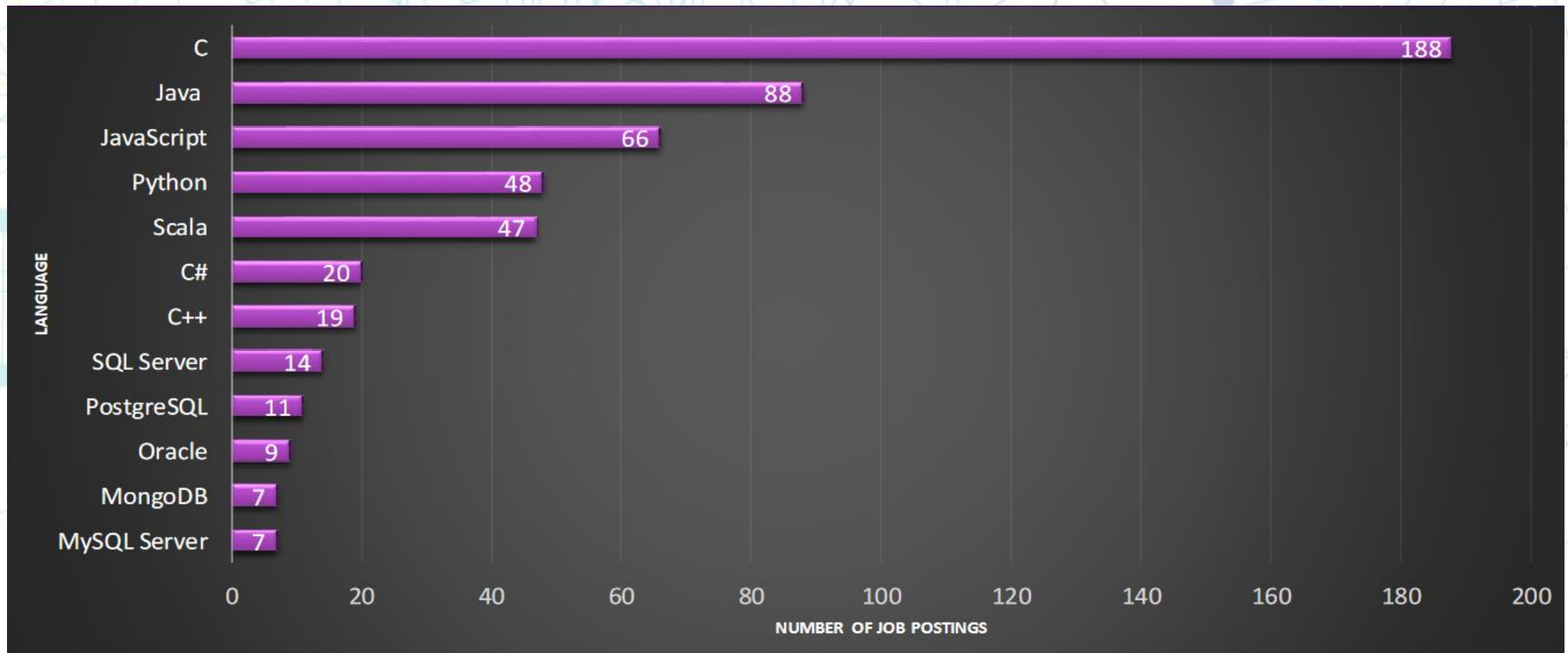
Re-arrange the staffs for those who posses dying or already dead skills

# Appendix





# GITHUB JOB POSTINGS



# JOB Skill Salary

