



# STACK OVERFLOW USER SURVEY

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# OUTLINE

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- Executive Summary
- Introduction
- Methodology
- Results
  - Visualization – Charts
  - Dashboard
- Discussion
  - Findings & Implications
- Conclusion
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# EXECUTIVE SUMMARY

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- This slide is an analysis of a survey done by stack overflow users in 2019
- Here are the most important information that this analysis offers us :
  - what languages databases tools are used
  - Which tools will be used more in the future?
  - character analysis of the participants
- this survey gives us a certain analysis of the present and creates a schema for the future.

# INTRODUCTION

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- Since 2011, the online programming knowledge sharing platform, Stack Overflow, has been conducting the Stack Overflow Annual Developer Survey.
- The primary objective of the annual surveys is to gather data regarding technology usage and trends among developers
- In this analysis, a subset of the 2019 dataset was examined (present dataset:  $N = 11,398$ ; original dataset  $N \approx 90,000$ )
- Audience: Developers (current and aspiring), HR professionals, educators, policy makers

# METHODOLOGY

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- Data Source: 2019 Stack Overflow Developer Survey | [link](#)
- Data Wrangling: A portion of the dataset (provided by IBM) was loaded and cleaned using SQL and Python's pandas library.
- Cleaning procedure: Duplicates removal, data imputation, data normalization
- Analysis & Visualization: EDA and data visualization were conducted using various Python libraries and Cognos.

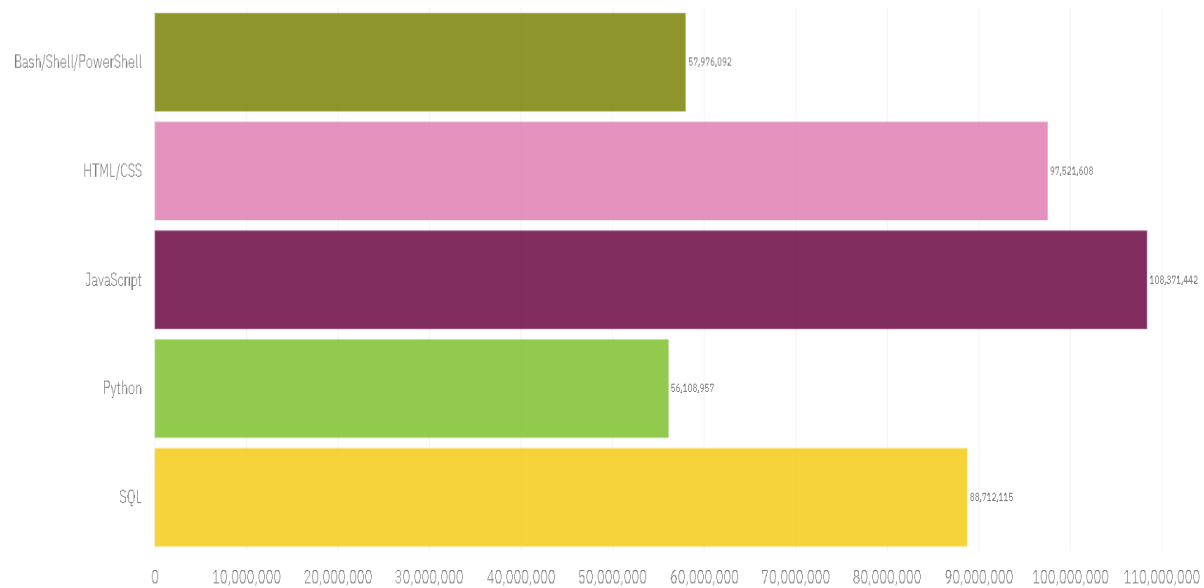
# RESULTS

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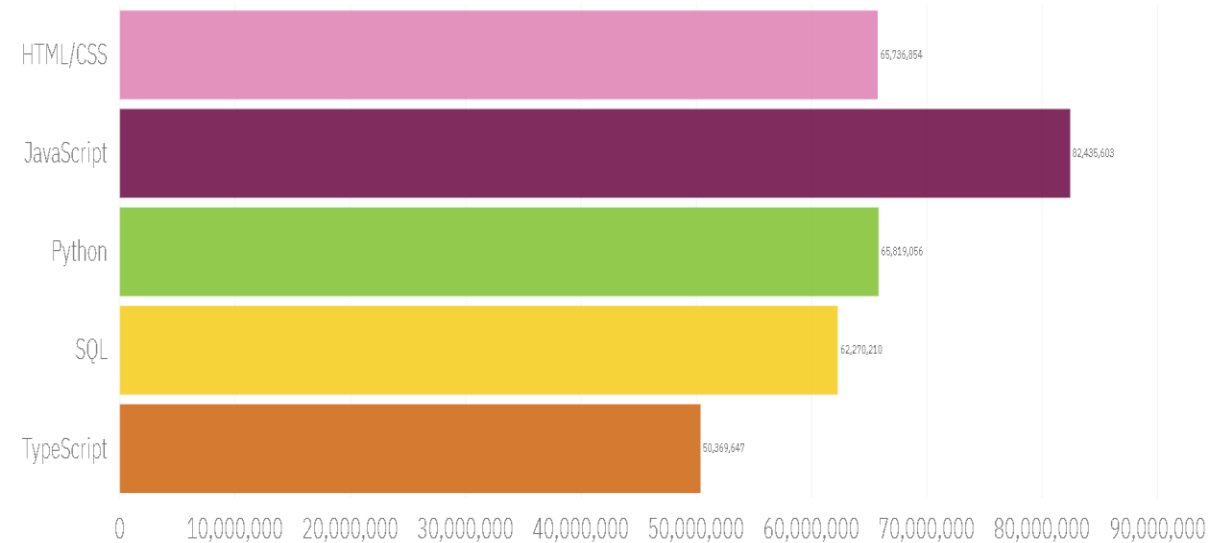


# PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



# PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- JavaScript and CSS continue to be the top two most popular programming languages for this year and future
- Growing interest in python in the future
- Powershell is replaced by TypeScript

## Implications

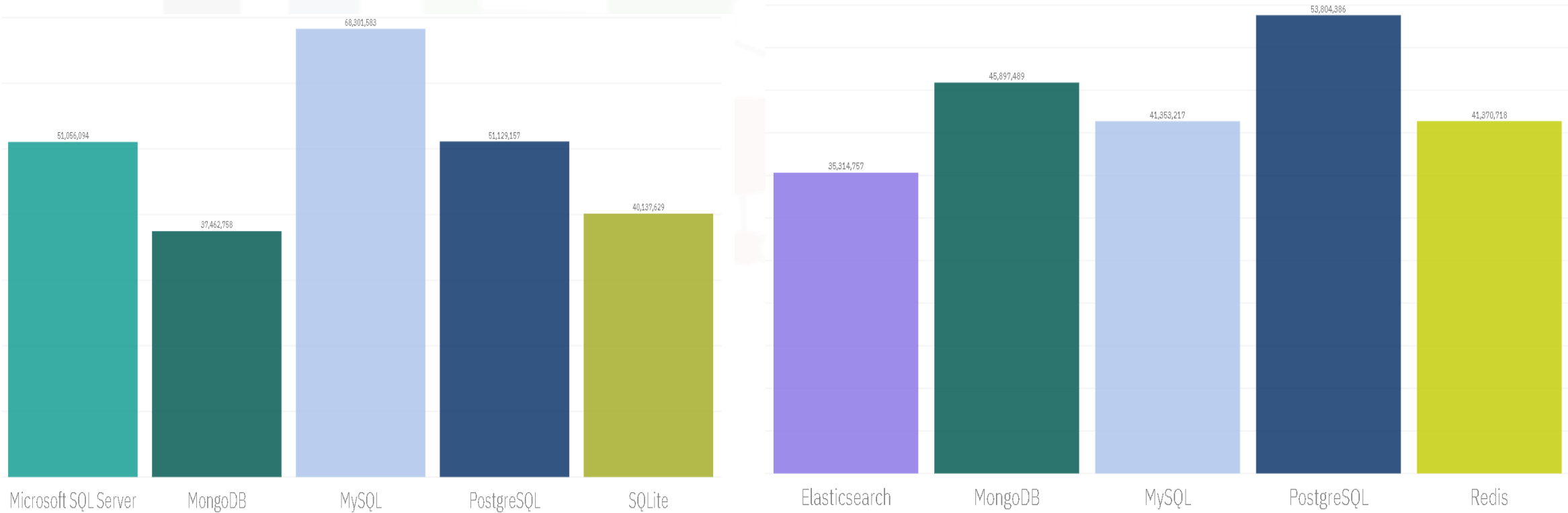
- Don't make changes in css
- give more importance to typescript and python
- Less importance to powershell



# DATABASE TRENDS

Current Year

Next Year



# DATABASE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- SQL database programs were the most popular in 2019, with MySQL in the lead.
- SQL lost the interest
- Increasing interest in Elasticsearch.

## Implications

- NoSQL database programs are gaining popularity, which likely reflects a growing need to handle nonrelational and unstructured data.
- Give more attraction to redis and elasticsearch
- Employ more people skilled in mongodb

# DASHBOARD

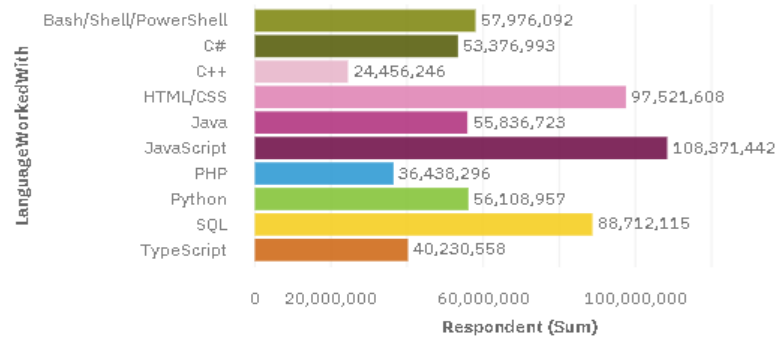
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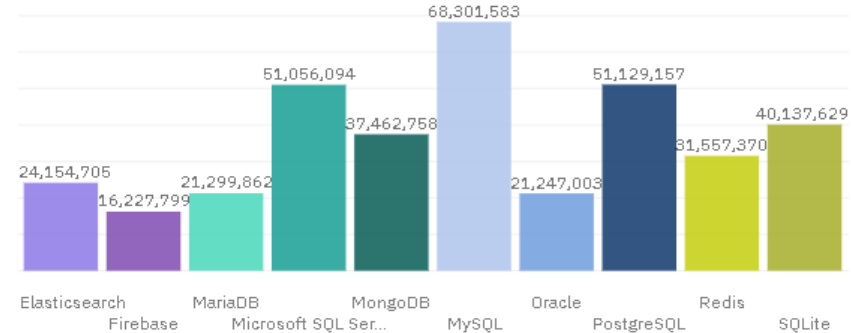
click the link for the dashboard [link](#).

# DASHBOARD TAB 1

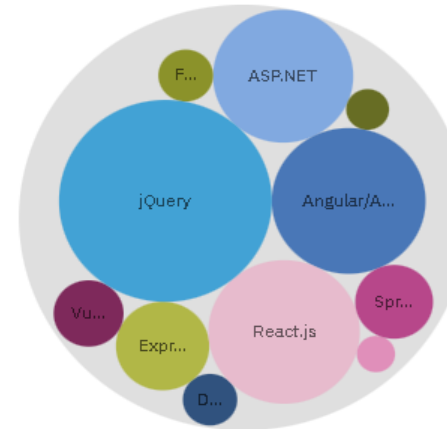
10 most used languages



top 10 database languages

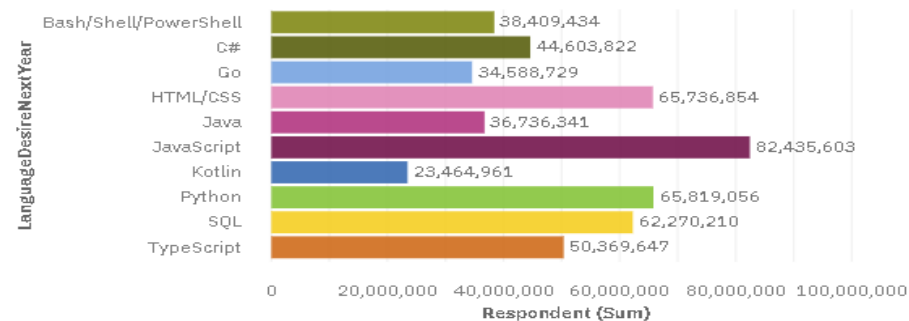


Word with using platform

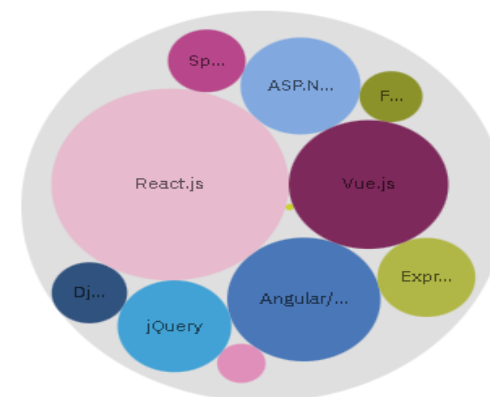
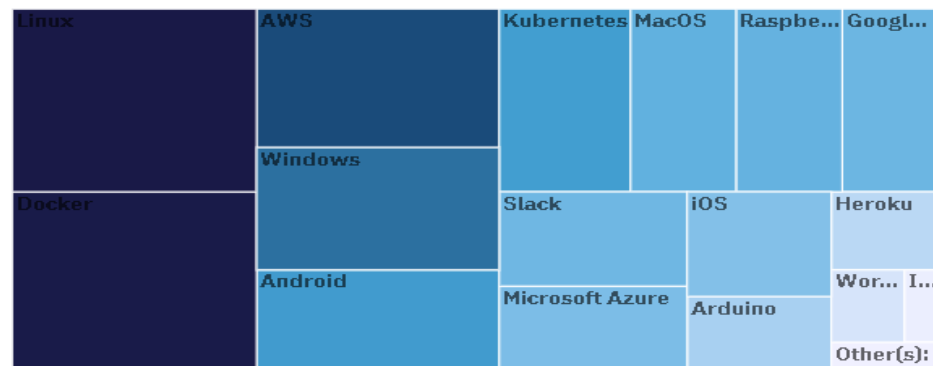
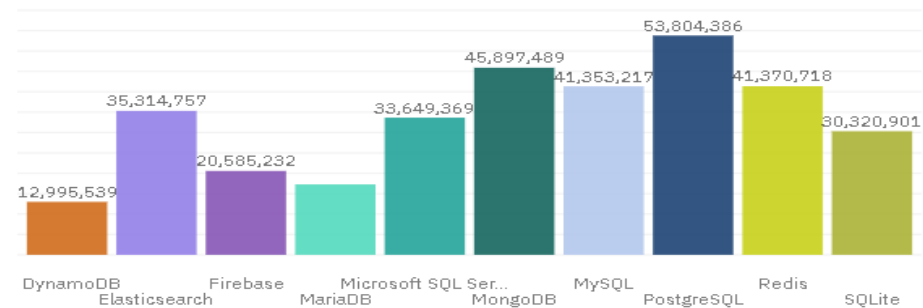


# DASHBOARD TAB 2

top 10 desired language



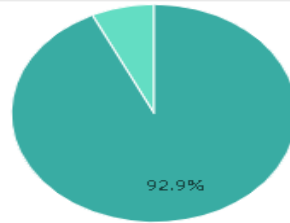
top 10 Dbase in future



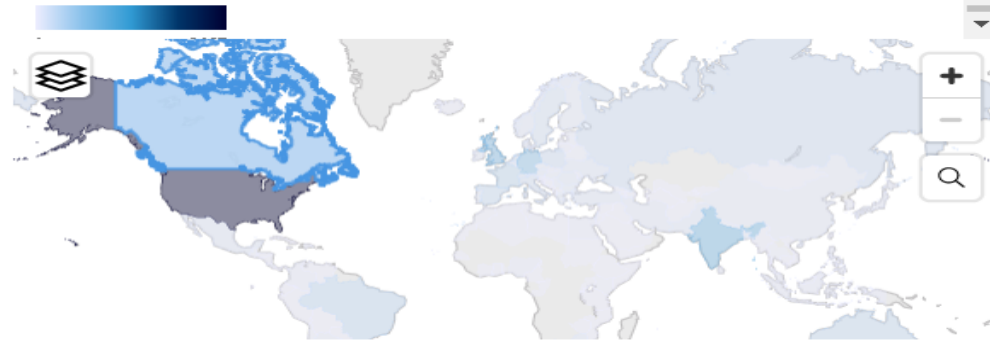
# DASHBOARD TAB 3

## Respondents Genders

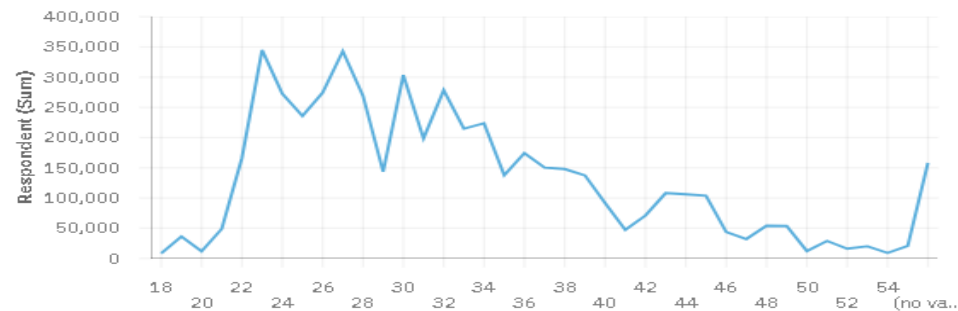
Gender  
● Man ● Woman



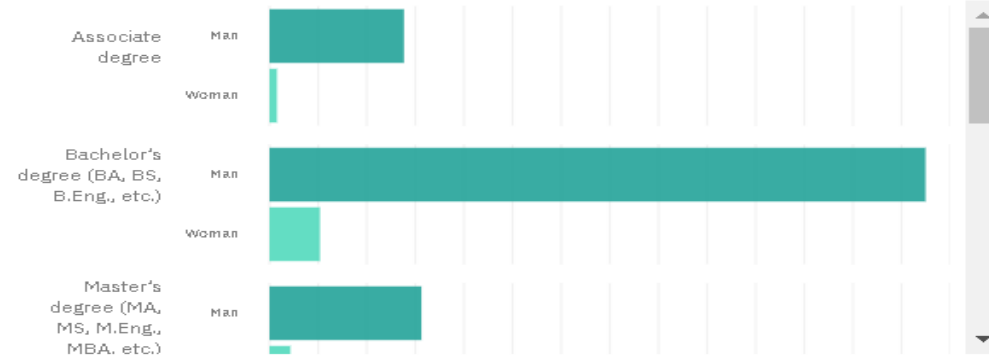
## Country (Count)



## Respondents Age



## Respondents Gender classified by edu level



# DISCUSSION

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# OVERALL FINDINGS & IMPLICATIONS

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## Findings

- TypeScript has gain a lot of attention in future
- Database tools are changing very quickly than language
- In platforms windows lost a lot attention in the future

## Implications

- Catch the new technologies and new trend technologies
- Employ more people who have a curious and try to learn new thing
- With the growing need to handle big data and perform AI and ML work, data professionals should continue to enhance SQL competence but also enhance competence with NoSQL database programs and Python.



# CONCLUSION

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- A subset of data collected as part of the 2019 Stack Overflow Developer Survey was examined.
- Technologies change very fast so we try to move with the future
- Python and databases are getting very important because of easy to use, ML, AI, etc.

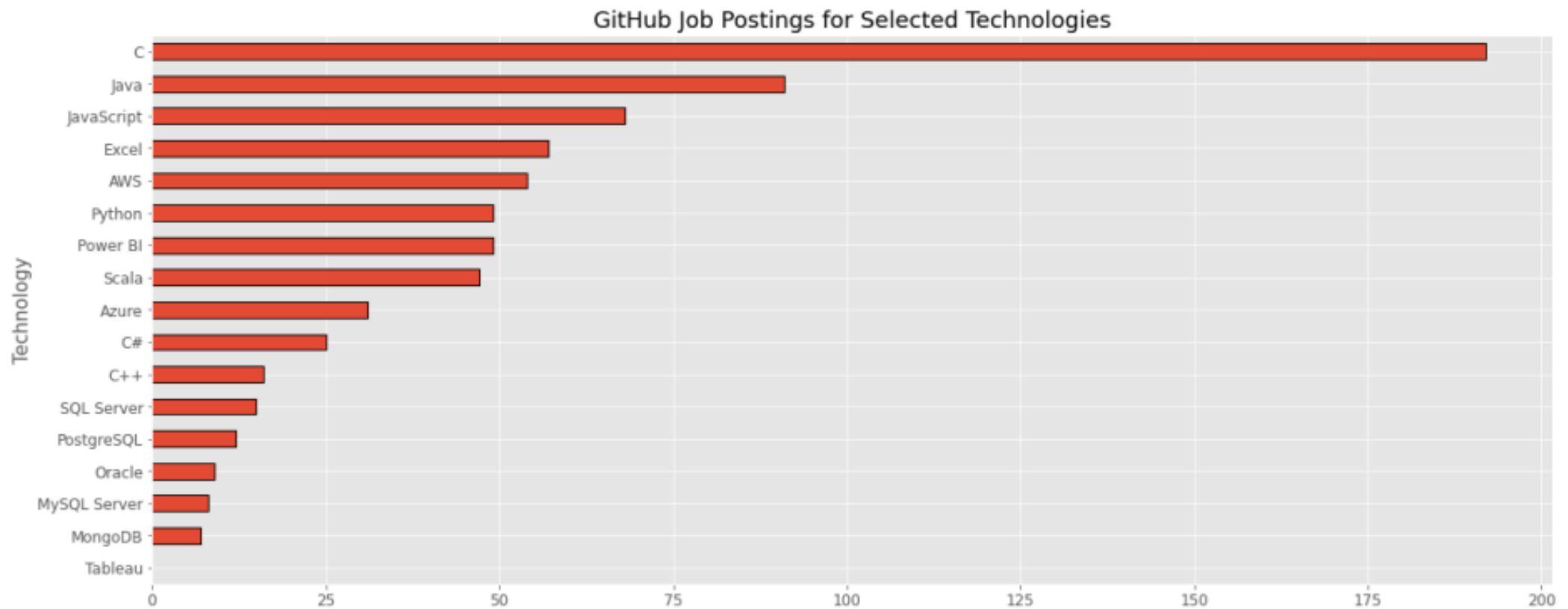
# APPENDIX

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# JOB POSTINGS

## APPENDIX A: GITHUB JOB POSTINGS FOR SELECTED TECHNOLOGIES



# POPULAR LANGUAGES

## APPENDIX B: POPULAR LANGUAGES BY SALARY

