Stack Overflow Technical Employment Data Analysis

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OUTLINE

- Executive Summary

- Introduction

- Methodology

- Results
  - Visualization – Charts
  - Dashboard

- Discussion
  - Findings & Implications

- Conclusion

- Appendix

EXECUTIVE SUMMARY

- Data Exploration

- Analysis Methods Overview
  - Data Collection
  - Data Analysis
  - Data Visualization

- Graphical Representation of Results

- Findings and Insights

- Conclusions

INTRODUCTION

- Stack Overflow is a question-and-answer website for programmers. It is the flagship site of the Stack Exchange Network. Every year, they survey nearly 100,000 developers across the world for insights into their work.

- While results do not represent everyone evenly, they are a great foundation for industry analysis.

- Predict trends in software development and associated professions globally.

- Maps the demographics of the developer community globally.

METHODOLOGY

- Data Collection
  - Web Scraping
  - APIs
  - URL Request Libraries

- Data Wrangling

- Exploratory Data Analysis

- Data Visualization
  - Data Distributions, Relationships
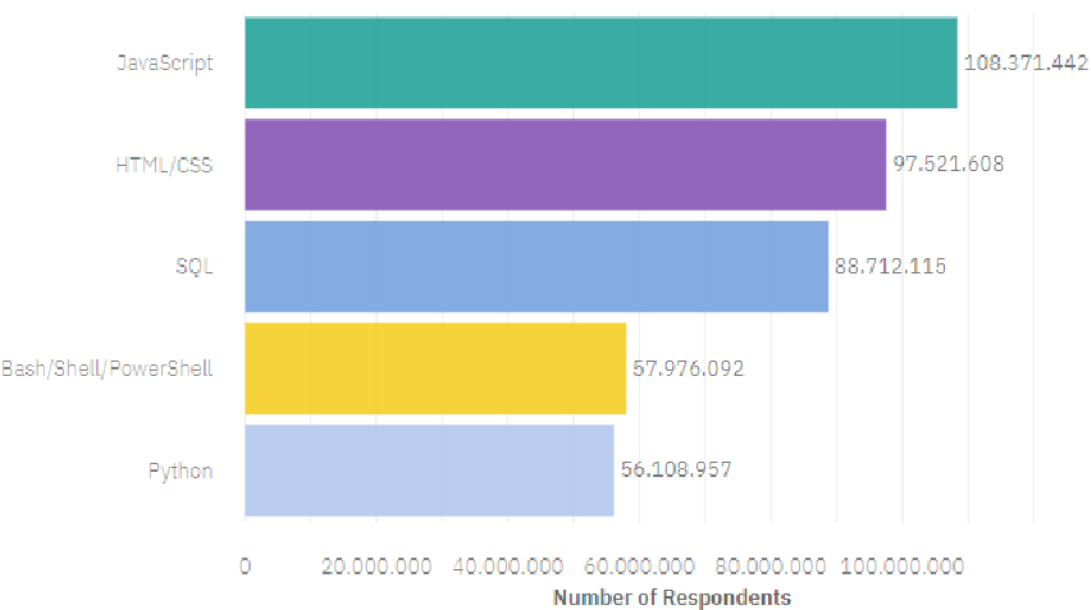 - Compare and Contrast Findings

- Build Dashboards

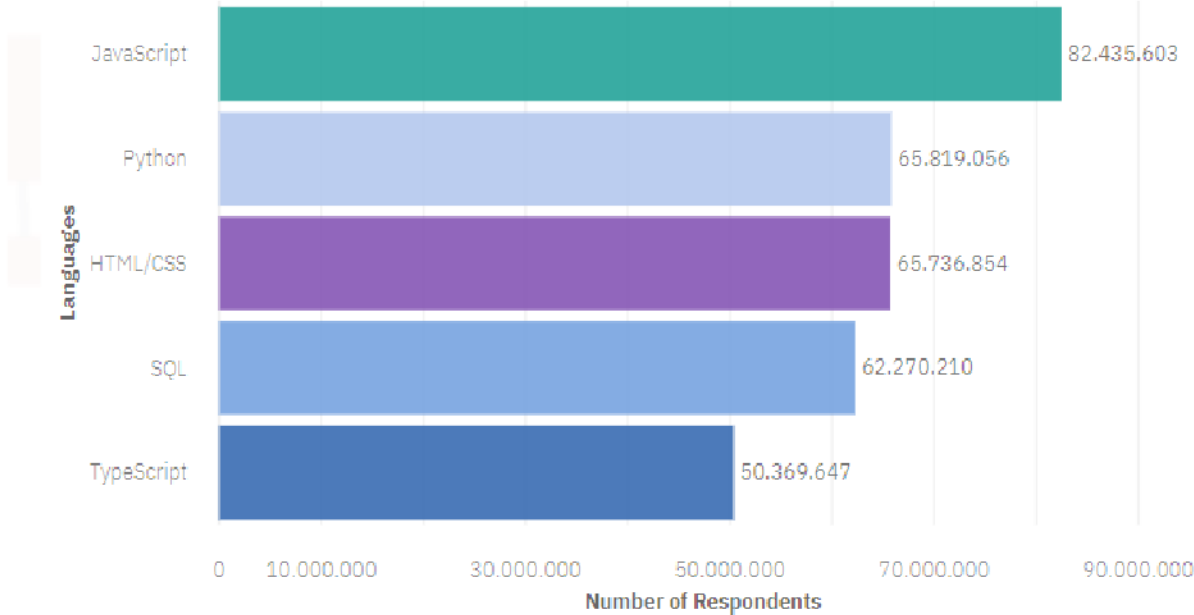# RESULTS

PROGRAMMING LANGUAGE TRENDS

Current Year

Top 5 Programming Language Experience

Language	Number of Respondents
JavaScript	108.371.442
HTML/CSS	97.521.608
SQL	88.712.115
Bash/Shell/PowerShell	57.976.092
Python	56.108.957

Next Year

Top 5 Desired Language to Learn

Languages	Number of Respondents
JavaScript	82.435.603
Python	65.819.056
HTML/CSS	65.736.854
SQL	62.270.210
TypeScript	50.369.647

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PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Javascript is the most used language
- Python is growing quickly and poised to take over
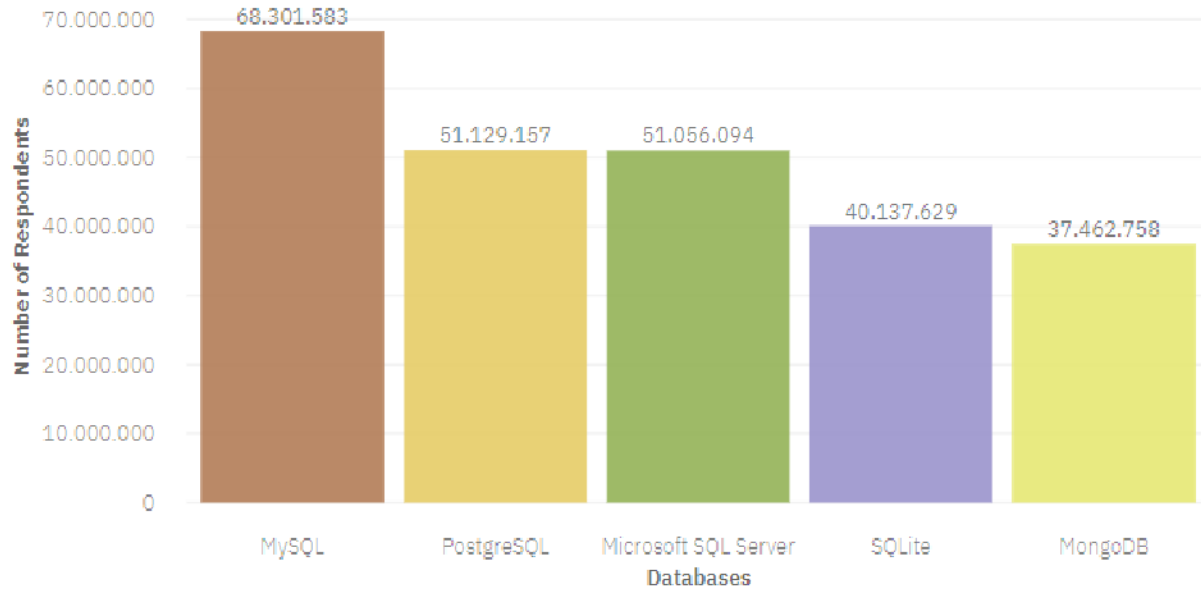- Typescript is unusually popular amongst developers too.

Implications

- Educational curriculum may implement Python as a language of choice in the future
- Typescript databases and learning materials will surge in popularity.

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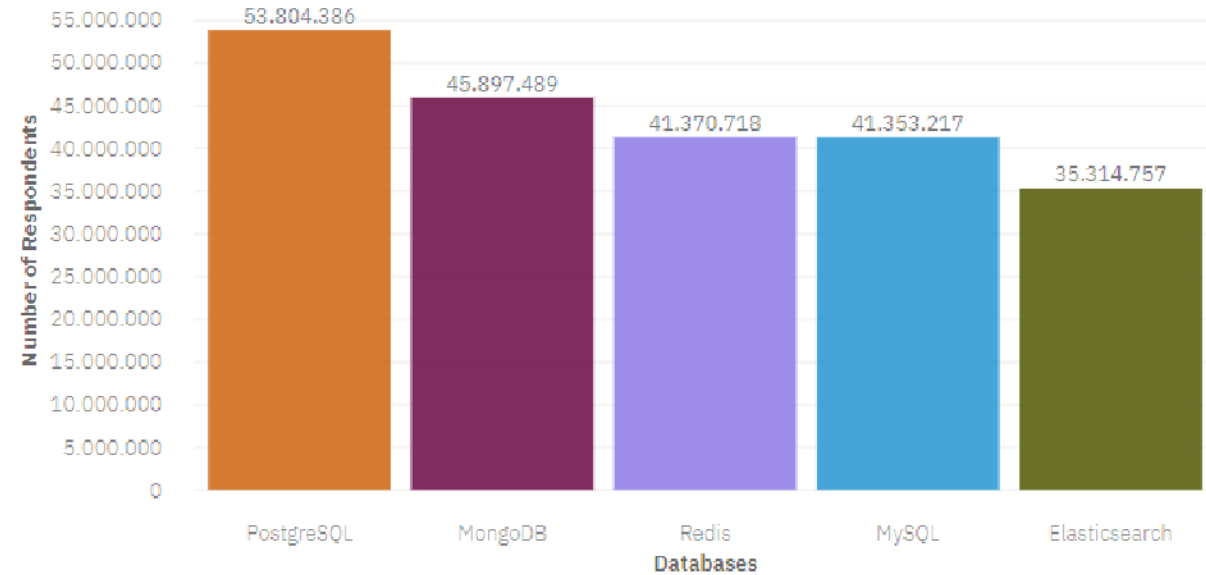SKILLS NETWORK

DATABASE TRENDS-FINDINGS & IMPLICATIONS

Findings

- MySQL is top database used

- Microsoft SQL server and SQLite currently popular but may not remain interesting in the future.

- PostgreSQL and MongoDB rising in popularity.

Implications

- Microsoft SQL Server and SQLite will lose market share.

- PostgreSQL and MongoDB to see a rise in resources and learning materials within developer community.
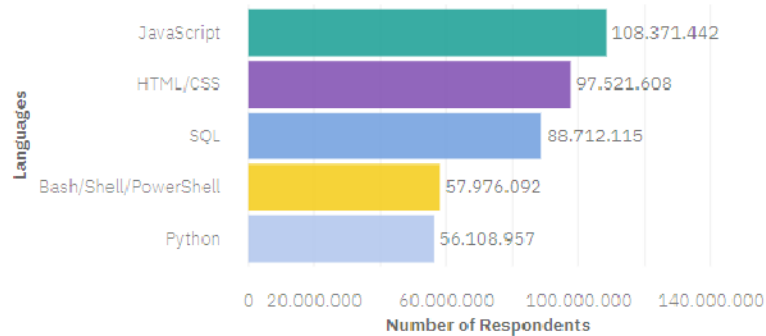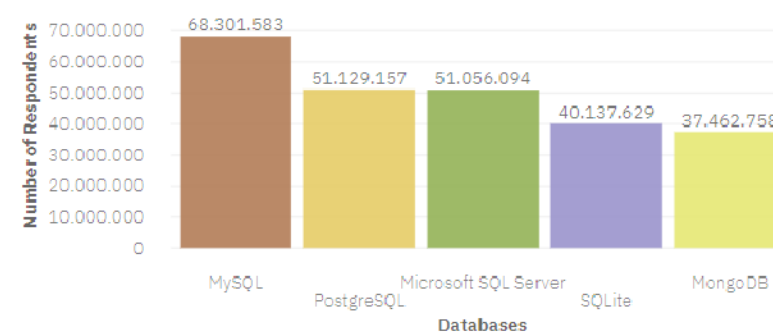
DASHBOARD

<The permanent link of the read-only view of the Cognos dashboard goes here.>
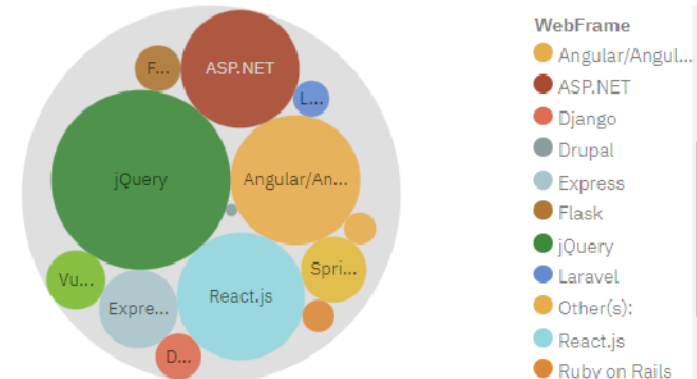
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CURRENT TECHNOLOGY USAGE

Top 5 Programming Language Experience

Languages	Number of Respondents
JavaScript	108.371.442
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SQL	88.712.115
Bash/Shell/PowerShell	57.976.092
Python	56.108.957

Top 5 Databases Worked with

Databases	Number of Respondents
MySQL	68.301.583
PostgreSQL	51.129.157
Microsoft SQL Server	51.056.094
SQLite	40.137.629
MongoDB	37.462.758

Platforms Interacted

AWS Slack Android Microsoft Azure WordPress Windows Linux Docker Google Cloud Platform iOS Heroku Arduino MacOS Kubernetes Raspberry Pi IBM Cloud or Watson

Top 10 WebFrames Used

WebFrame
- Angular/Angul...
- ASP.NET
- Django
- Drupal
- Express
- Flask
- jQuery
- Laravel
- Other(s):
- React.js
- Ruby on Rails

ASP.NET jQuery Angular/An... React.js Spri... Vu... Expre...

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FUTURE TECHNOLOGY TREND

Top 5 Desired Language to Learn

Language	Number of Respondents
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Python	65.819.056
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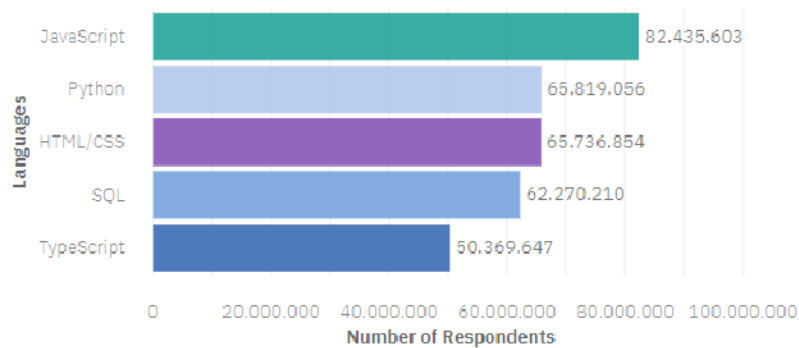
Top 5 Desired Database to Learn

Database	Number of Respondents
PostgreSQL	53.804.386
MongoDB	45.897.489
Redis	41.370.718
MySQL	41.353.217
Elasticsearch	35.314.757

Platform Next Year

Linux, Docker, AWS, Windows, Android, Kubernetes, MacOS, Raspberry Pi, Google Cloud Pla..., Slack, iOS, Heroku, Micro..., Ardu..., Word...
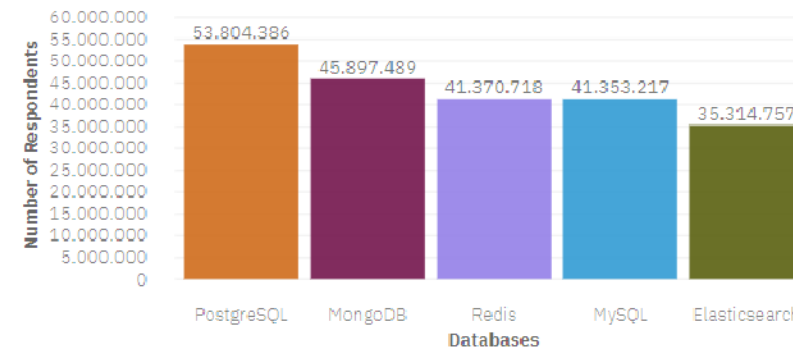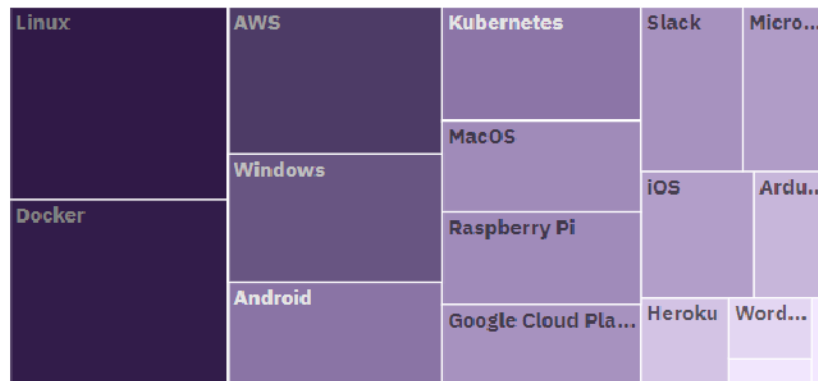
Top 10 WebFrame Next Year
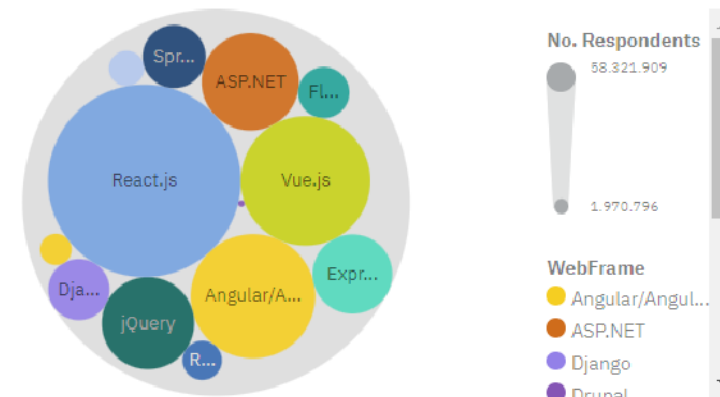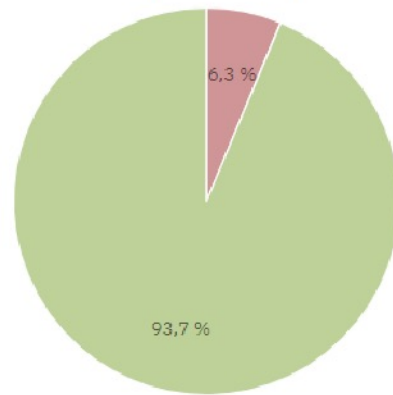
Spr..., ASP.NET, Fl..., React.js, Vue.js, Dja..., jQuery, Angular/A..., Expr..., R...

No. Respondents
58.321.909
1.970.796

WebFrame
- Angular/Angul...
- ASP.NET
- Django
- Drupal

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DEMOGRAPHICS
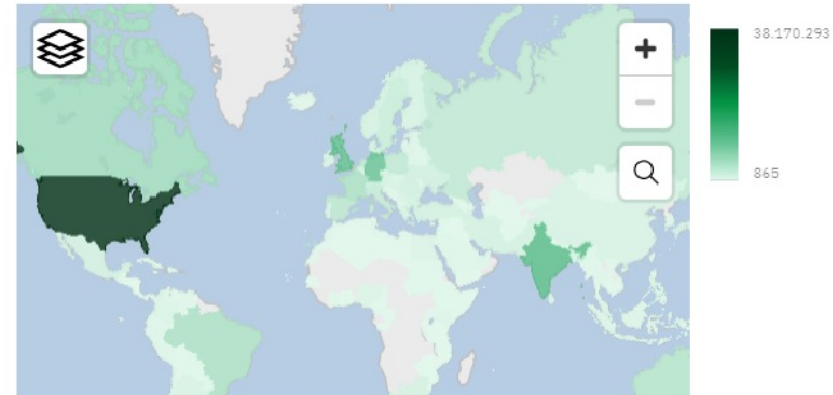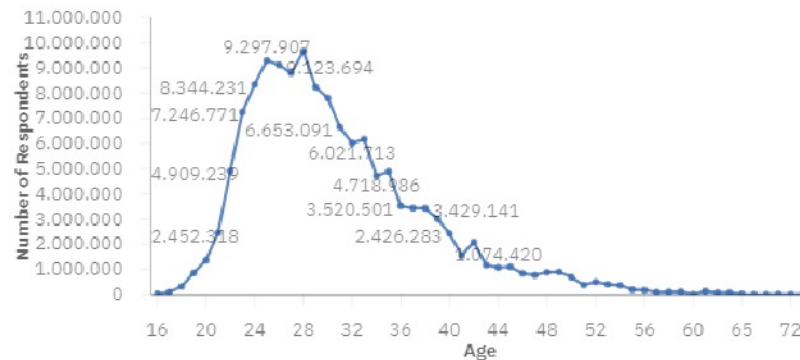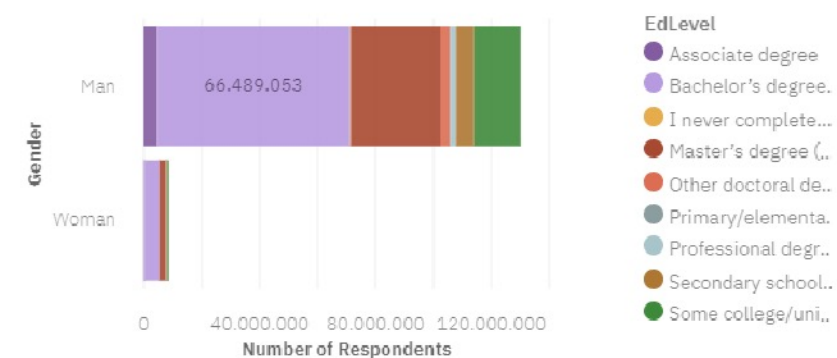
DISCUSSION

OVERALL FINDINGS & IMPLICATIONS

Findings

- Javascript is the most used language
- Python is growing quickly and poised to take over
- Typescript is unusually popular amongst developers too.
- MySQL is top database used
- Microsoft SQL server and SQLite currently popular but may not remain interesting in the future.
- PostgreSQL and MongoDB rising in popularity.

Implications

- Educational curriculum may implement Python as a language of choice in the future
- Typescript databases and learning materials will surge in popularity.
- Microsoft SQL Server and SQLite will lose market share.
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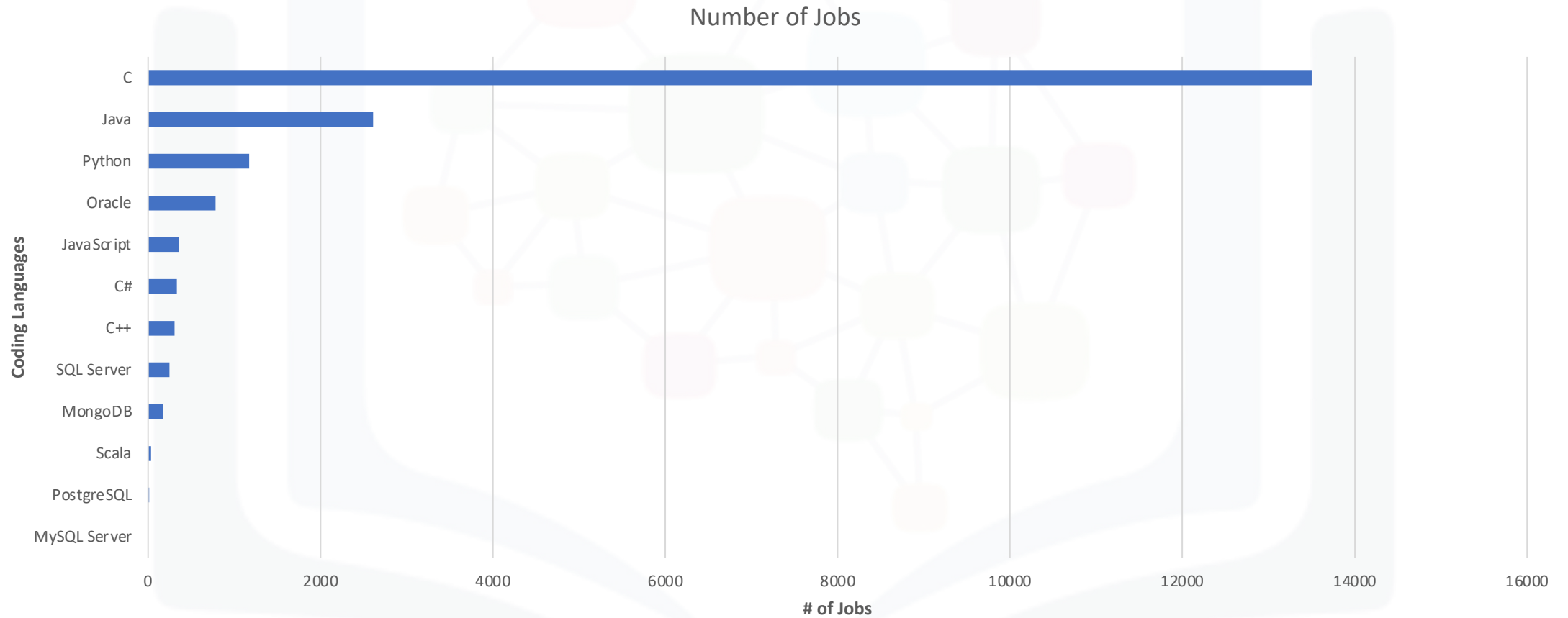
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CONCLUSION

- Typescript will need to refine its product delivery to make it more accessible to new developers due to rising interest

- Microsoft must invest additional $'s in order to improve its SQL server to remain competitive

- MongoDB will be a good long-term bet due to its intuitive interface and numerous integrations.

APPENDIX

- Include any relevant additional charts, or tables that you may have created during the analysis phase.

JOB POSTINGS

Number of Jobs

Coding Languages / # of Jobs

- C
- Java
- Python
- Oracle
- JavaScript
- C#
- C++
- SQL Server
- MongoDB
- Scala
- PostgreSQL
- MySQL Server

(x-axis: 0, 2000, 4000, 6000, 8000, 10000, 12000, 14000, 16000)

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POPULAR LANGUAGES

Average Annual Salary