



Insights on the developer job market of 2019 and the future

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OUTLINE



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EXECUTIVE SUMMARY



- This presentation will summarize the important insights derived from **Stack Overflow Developer Survey from 2019**
- The key insights derived are:
 - Most popular programming languages, databases and other technologies currently
 - The Programming languages, databases and other technologies that are to be desired in the next year
 - Demographic statistics in the developer market
- Reviewing these insights will shed light to anyone interested in the developer field of work

INTRODUCTION



- The Stack Overflow surveys have been taking place every year starting from 2011
- The purpose of these surveys is to help improve the Stack Overflow platform, therefore, better serving the community
- The analysis was completed on a small portion of the total 2019 dataset

METHODOLOGY



- Data Source – 2019 Stack Overflow Developer Survey
- Data Wrangling
 - Data imputation
 - Duplicates removed
 - Data normalized
- These tools were used to visualize and analyze the data:
 - Python with various libraries
 - IBM Cognos

RESULTS

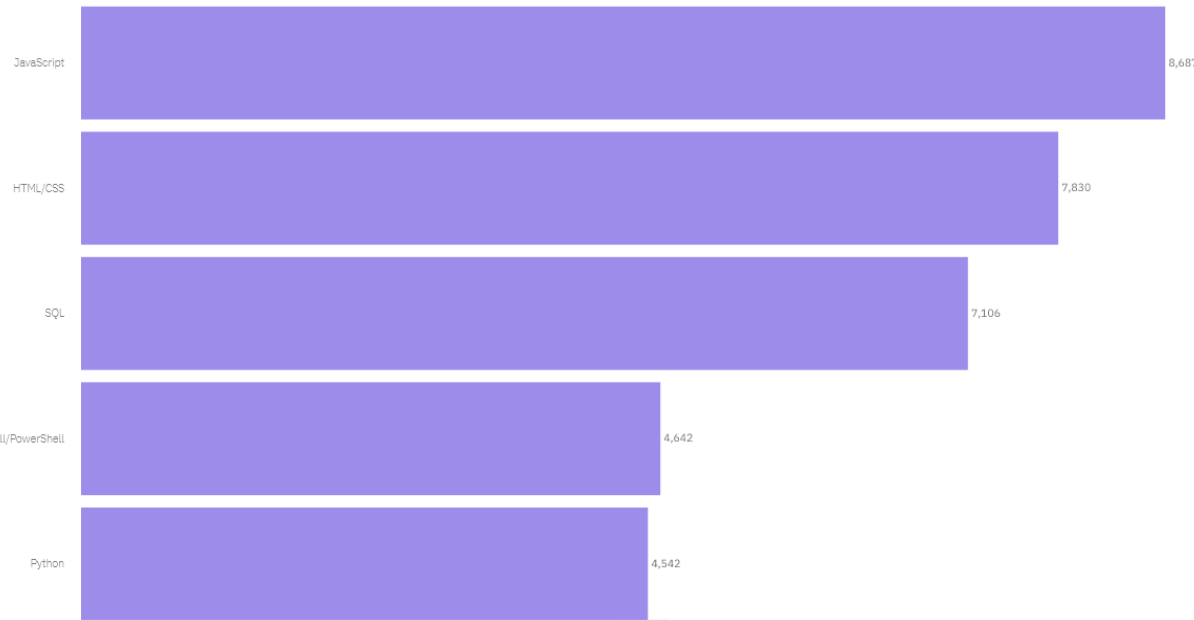


Stats information

- The Average age of Respondents is 30.7, the youngest being 16
- The Average Compensation is 59883.2, with the highest being 209356
- The highest correlation is between age and Compensation

Result 1 : PROGRAMMING LANGUAGE TRENDS

Top 5 Current Year



Top 5 Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

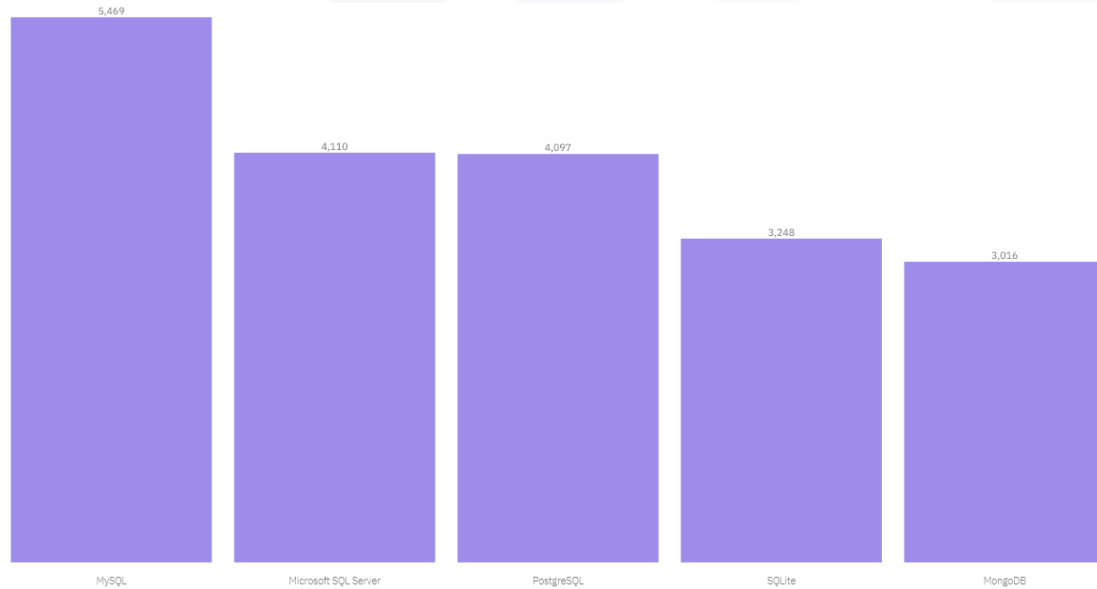
- JavaScript HTML/CSS, and SQL are the top 3 languages in popularity this year
- However within the next year Python will take SQL's place as 3rd in the popularity list and SQL will drop to 4th
- Lastly, Bash/Shell/PowerShell will drop out of the top 5 and TypeScript will enter that list

Implications

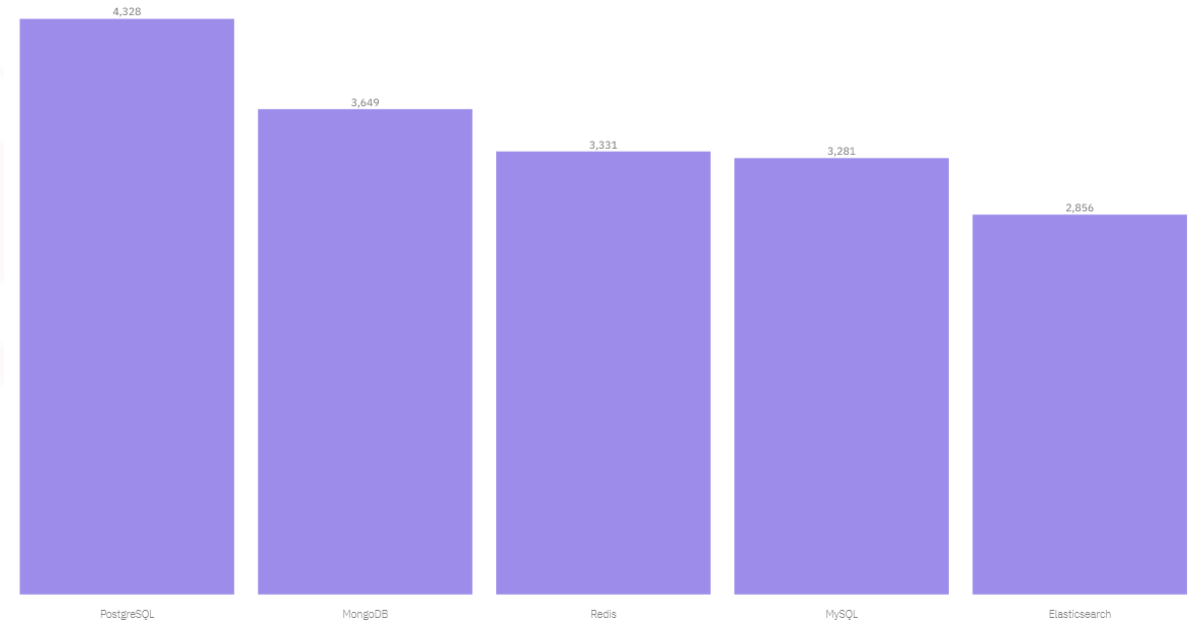
- Web based languages have a healthy popularity within the top 5 list and will not fade away within the years
- SQL is used by most Data Analysts, therefore the chances for the language dying out is slim
- Most current businesses operate using Python and that is increasing with the presence of Artificial Intelligence and Machine Learning

Result 2 : DATABASE TRENDS

Top 5 Current Year



Top 5 Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- SQL databases was leading the market in 2019, having 4 databases within the top 5
- However within the next year MongoDB moves from 5th spot to 2nd
- Microsoft SQL Server and SQLite will drop from the top 5 list next year and will be replaced by Elasticsearch and Redis

Implications

- Database popularity is growing past relational database and into non relational databases
- Developers are leaning towards open source programs within their field
- Future Developers should grow their skills in structured and more databases able to handle unstructured data

Cognos DASHBOARD

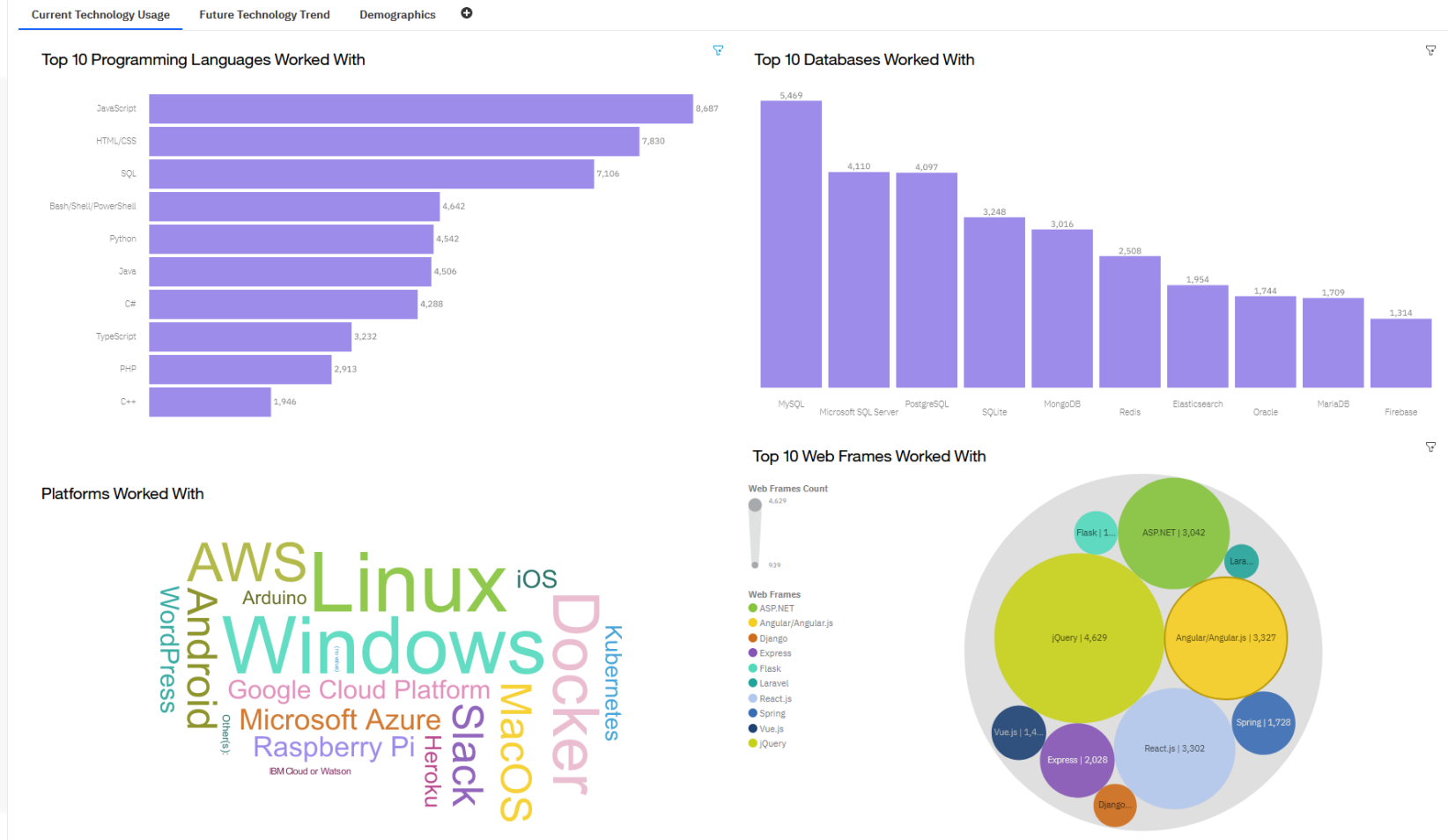


In order to access the Cognos Dashboard that contains an interactive experience and a deeper delve into the insight please follow the hyperlink below

[Click me in order to go to the interactive Dashboard](#)

The following slides contain screenshots of the Dashboard

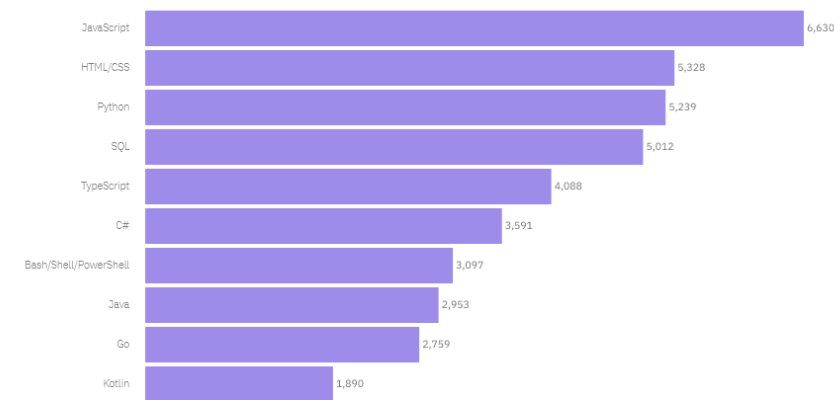
Current Technology Usage



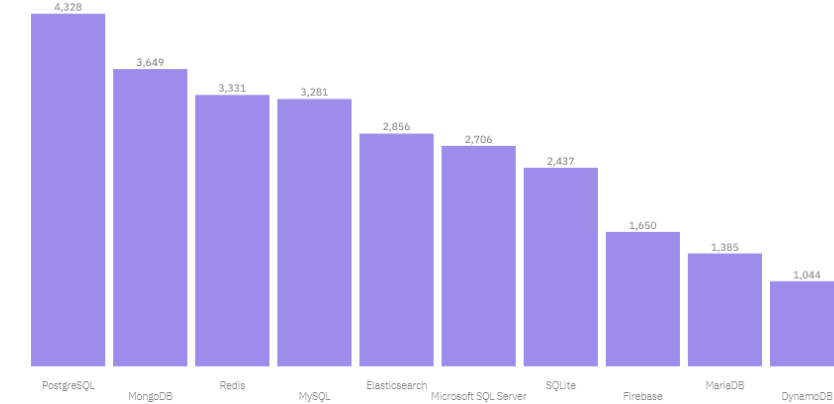
Future Technology Trends

Current Technology Usage Future Technology Trend Demographics +

Top 10 Programming Languages Desired Next Year



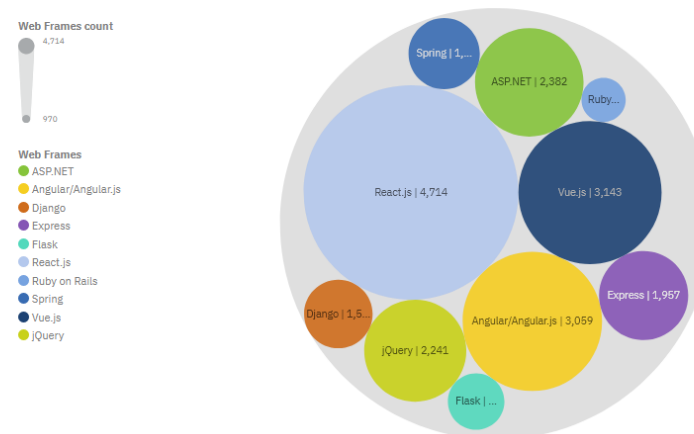
Top 10 Databases Desired Next Year



Platforms Desired Next Year



Top 10 Web Frames Desired Next Year

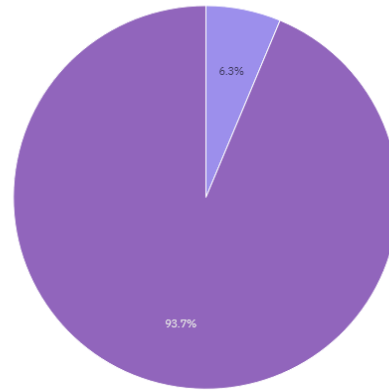


Demographics

Current Technology Usage Future Technology Trend Demographics +

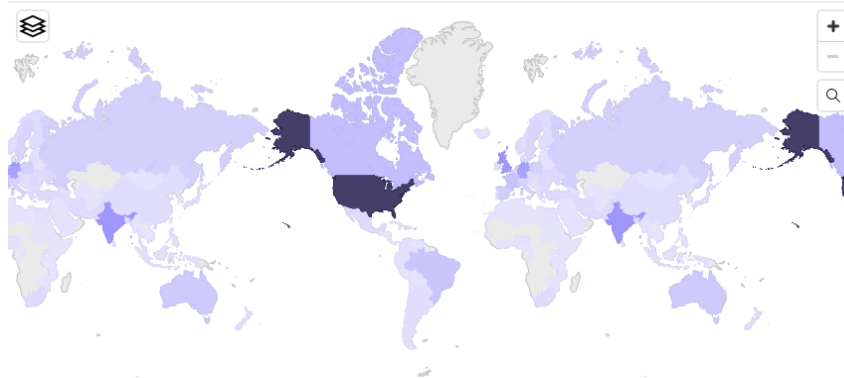
Gender of Respondents

Gender
● Woman ● Man

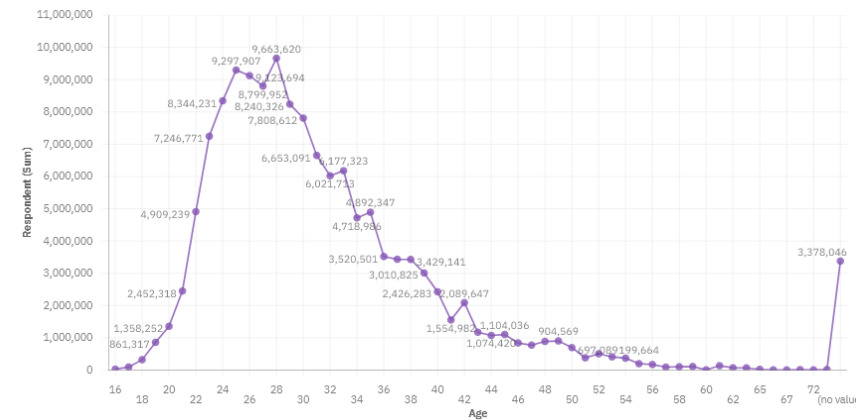


Respondents Per Country

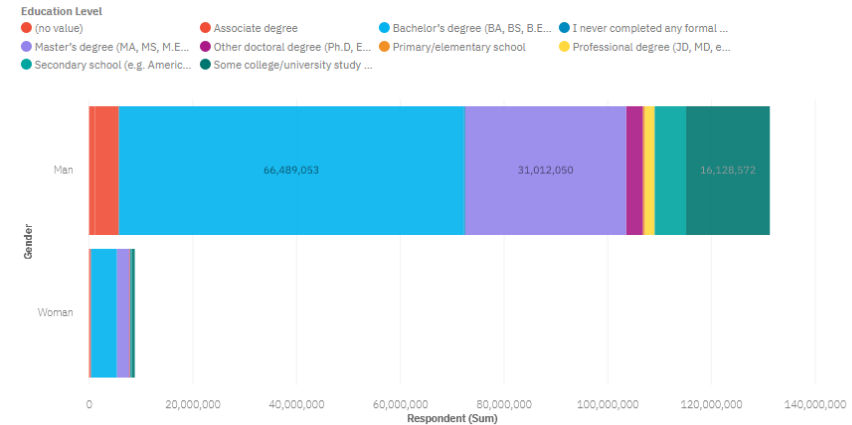
Respondent (Sum)
865 28,170,293



Respondents by Age



Respondent by Gender and Education Level



DISCUSSION



- Insights extracted from the dataset answer and ask the question:
 - What technologies should developers focus on?
 - What technologies are going to be prevalent in the future?

OVERALL FINDINGS & IMPLICATIONS

Findings

- High popularity with web development languages
- Python gaining popularity fast
- There is a gender gap within the developer market
- Most developer jobs are located within the United States
- A bulk of jobs use C as a main language

Implications

- Typescript is gaining popularity, therefore, aspiring web developers should not neglect this language
- Developers should also grow their skillset with using Python as a language
- Educators should look ahead and make sure their students are ready with skill sets for the future market not the current one

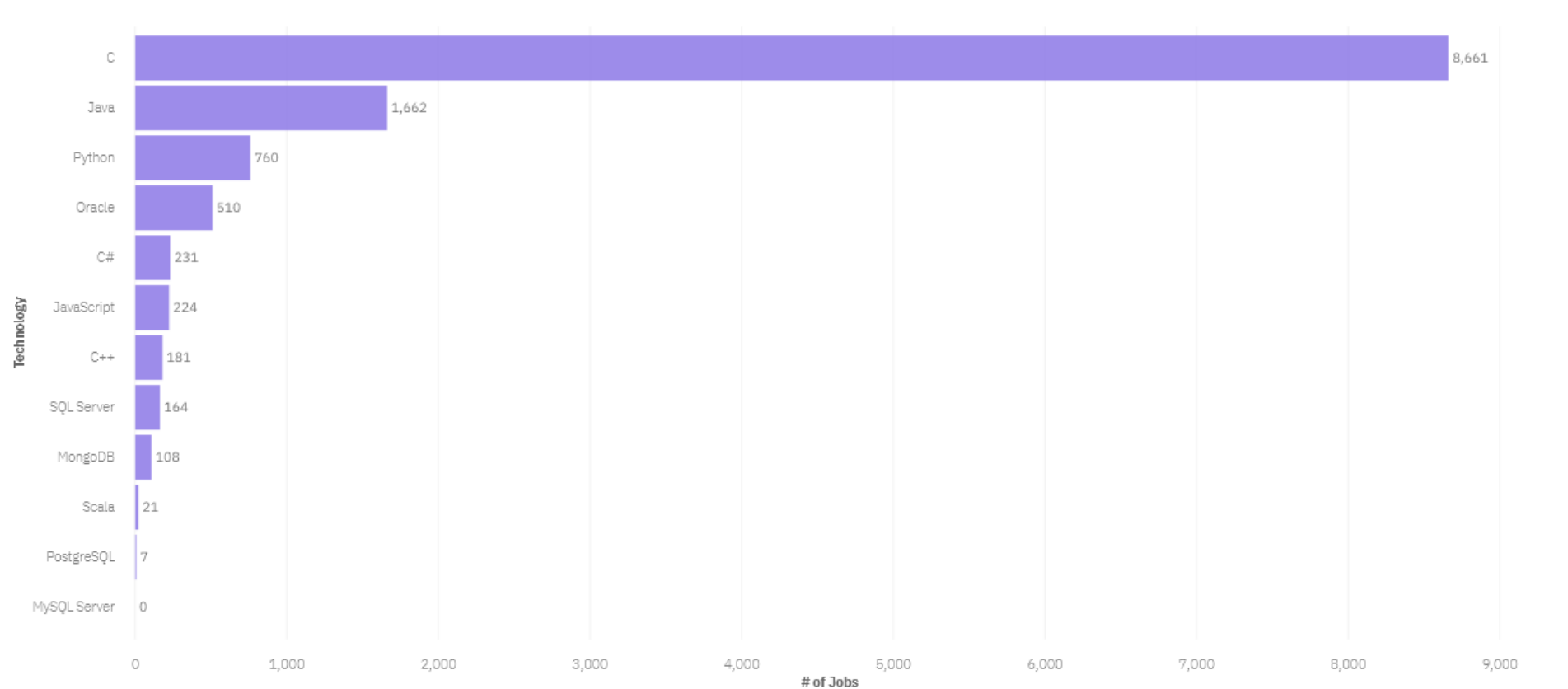
CONCLUSION



- A portion of data was used from 2019 Stack Overflow Developer Survey
- Insights were gathered on which technologies are prevalent today and what will be prevalent in the future
- Most Developer jobs are within the United States
- These insights should be relevant to anyone who is involved in technology, from developers themselves to business owners

Appendix 1 - JOB POSTINGS

Total Job Postings by Technology



Appendix 2 - POPULAR LANGUAGES

Avg Salary By Language

