



STACK OVERFLOW DEVELOPER SURVEY- 2019

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OUTLINE

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

- **Current Technology Usage**

- Top 10 programming languages in demand
- Top 10 Database in demand
- Popular Platforms
- Top 10 Web Frame

- **Future Technology Trends**

- Top 10 Language Desire Next Year
- Top 10 Database Desire Next Year
- Popular Platforms Desire Next Year
- Top 10 Web Frame Desire Next Year

- **Demographics**

- Respondent classified by Gender
- Respondent Count by Countries
- Respondent Count by Age
- Respondent Count by Gender, classified by Formal Education Level

INTRODUCTION

- Stack Overflow's annual Developer Survey is the largest and most comprehensive survey of people who code around the world.
- Each year, they field a survey covering everything from developers' favorite technologies to their job preferences.
- 2019 marks the ninth year they have published their annual Developer Survey results, and nearly 90,000 developers took the 20-minute survey earlier this year.

INTRODUCTION

- The Stack Overflow Developer Survey 2019 offers a complete overview of the world developer community's preferences, trends, and demographics.
- The survey provides insights into current technology usage, future trends, and the diversity within the developer ecosystem
- Principal aspects include top programming languages, databases, platforms, and web frameworks in use, as well as desired technologies for the upcoming year.
- Additionally, the survey reveals respondent demographics, including gender distribution, country representation, age groups, and educational backgrounds.
- Overall, the Stack Overflow Developer Survey 2019 serves as a valuable resource for understanding the evolving landscape of technology and development.

METHODOLOGY



- **Data Collection**
 - Collecting Data Using APIs
 - Collecting Data Using Web Scraping
 - Exploring Data
- **Data Wrangling**
 - Finding Missing Values
 - Determine Missing Values
 - Finding and Removing Duplicates
 - Normalizing Data
- **Exploratory Data Analysis**
 - Distribution
 - Outliers
 - Correlation
- **Dashboard**

Report is based on data from:

- Stack Overflow Developer Survey 2019;
- Job Data from GITHUB job portal;
- Average annual salary report by IBM;

RESULTS

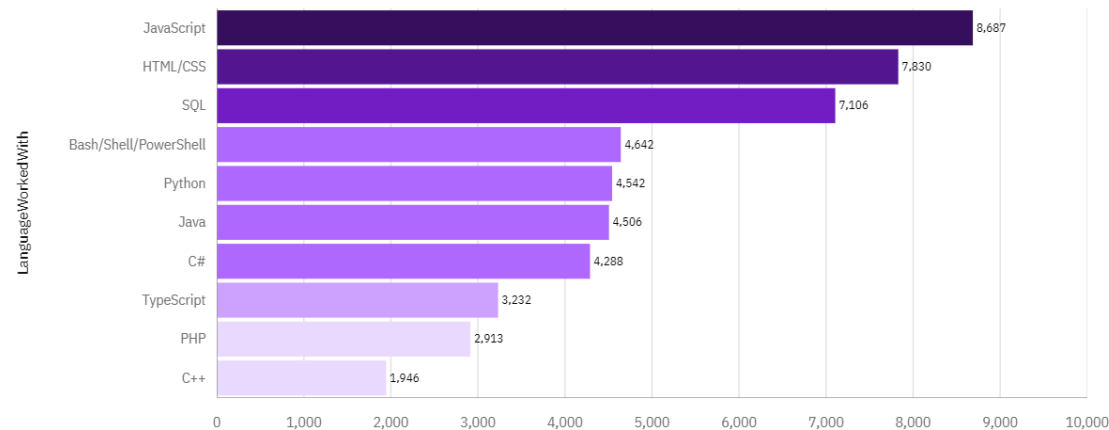


PROGRAMMING LANGUAGE TRENDS

Current Year

Top 10 Language Worked With

LanguageWorked...
1,946 8,687

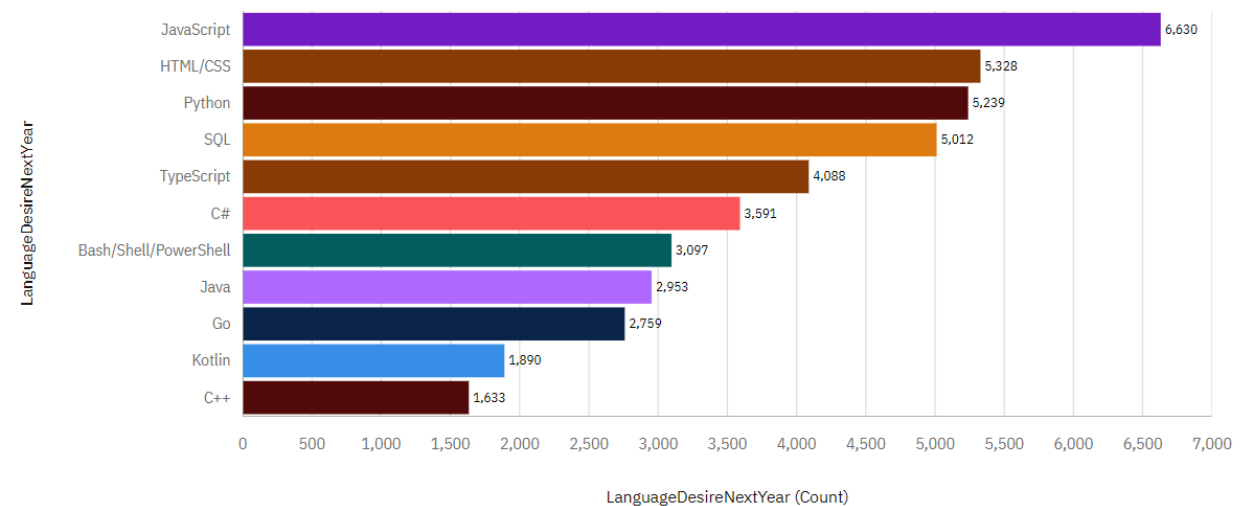


Next Year

Top 10 Language Desire Next Year

LanguageDesireNextYear

● Bash/Shell/PowerShell ● C# ● C++ ● Go ● HTML/CSS ● Java
● JavaScript ● Kotlin ● Python ● SQL ● TypeScript



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- JavaScript and HTML were the top programming languages in 2019 and are also highly desired for the upcoming year.
- SQL continues to be the favored programming language for 2019 and the subsequent year.
- Growing interest in Python and TypeScript reflects their rising popularity;
- Declining interest in Bash/Shell/Power Shell.

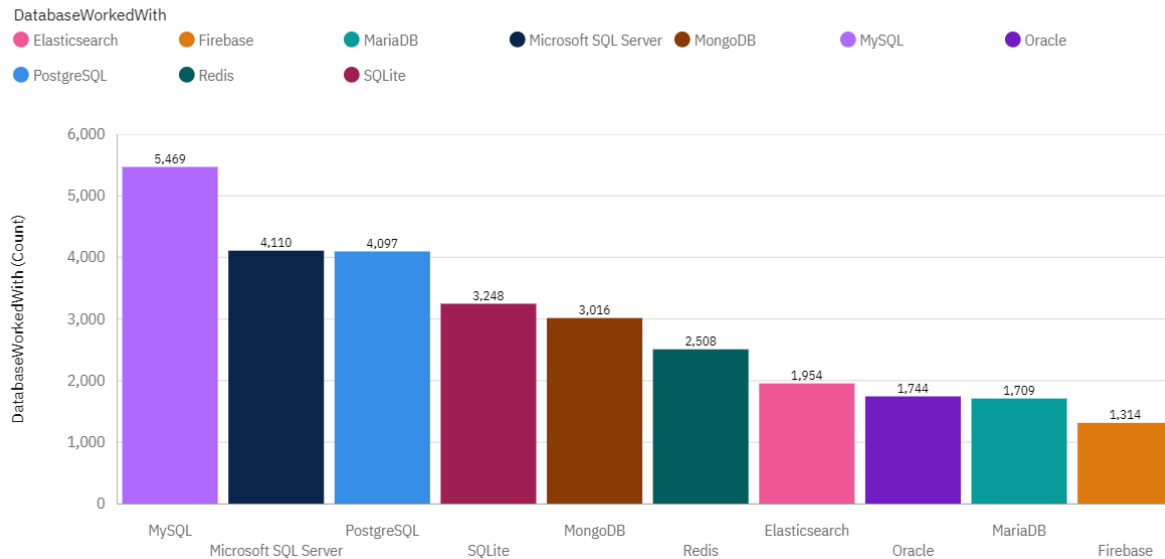
Implications

- JavaScript and HTML are expected to remain the dominant programming languages, but there could be a transition among developers moving from JavaScript to TypeScript.
- The increasing popularity of Python suggests a rising demand for data science professionals in the market.
- Interest among developers in Java, C#, and C++ appears to be diminishing

DATABASE TRENDS

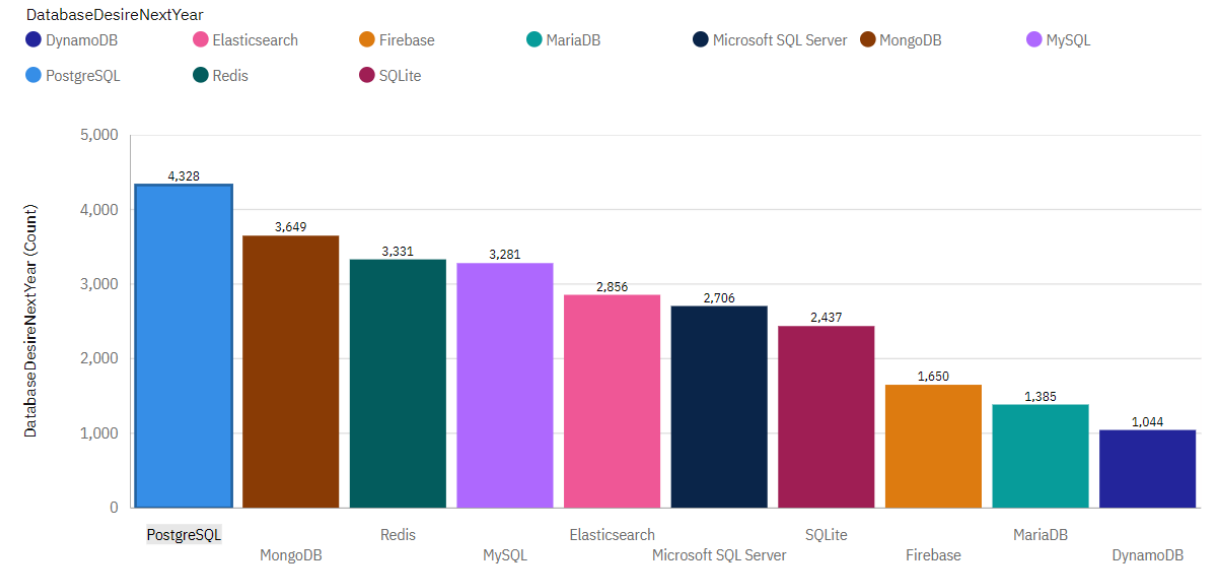
Current Year

Top 10 Database Worked With



Next Year

Top 10 Database Desire Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- SQL databases were the most used types of databases in 2019, with MySQL at the top, then Microsoft SQL Server, PostgreSQL, and SQLite.
- PostgreSQL is becoming more popular compared to other SQL databases and is the most wanted database for the next year.
- MongoDB, Elasticsearch, and Redis are getting more attention for the upcoming year.

Implications

- Usage of database choice is changing very fast;
- Professional developers seem to like using open-source databases like PostgreSQL, MongoDB, Redis, and MySQL in the future.
- The growing popularity of NoSQL databases like MongoDB, Elasticsearch, and Redis shows a market trend toward using a database system that can manage large amounts of unstructured data.
- Learning more than one database is promising more opportunities in the future.

DASHBOARD

In this section will show the static screenshots of the dashboard that summarize the following:

- I. Current Technology Usage
- II. Future Technology Trends
- III. Demographics of Respondents

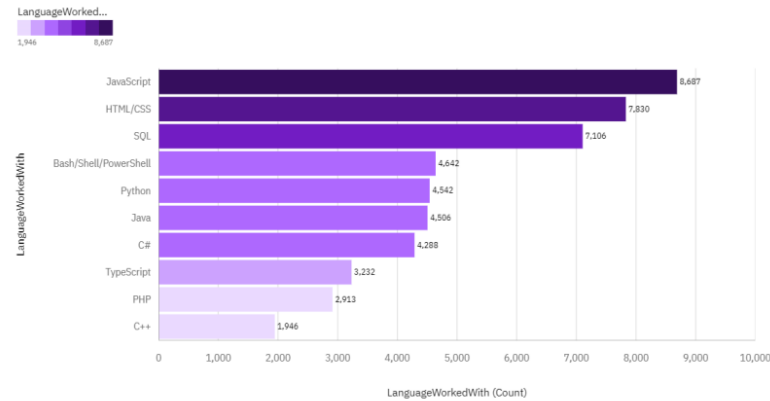
By clicking the link below you will have access to the dashboard.

[https://github.com/BTRF2404/bug-free-octo-palm-tree/blob/main/Collecting Jobs data Using API-Questions.ipynb](https://github.com/BTRF2404/bug-free-octo-palm-tree/blob/main/Collecting%20Jobs%20data%20Using%20API-Questions.ipynb)

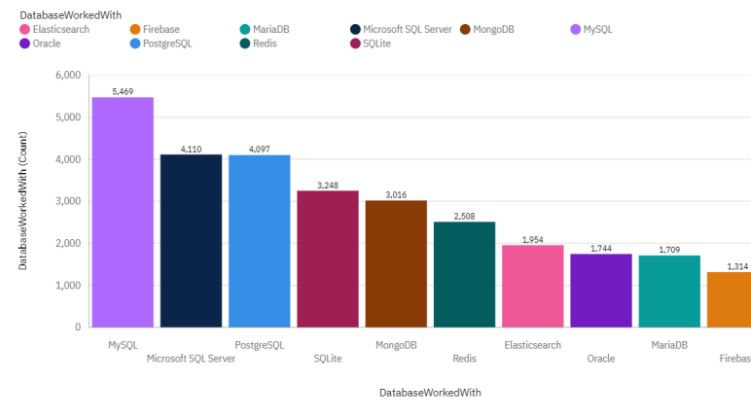
DASHBOARD TAB 1

Current Technology Usage

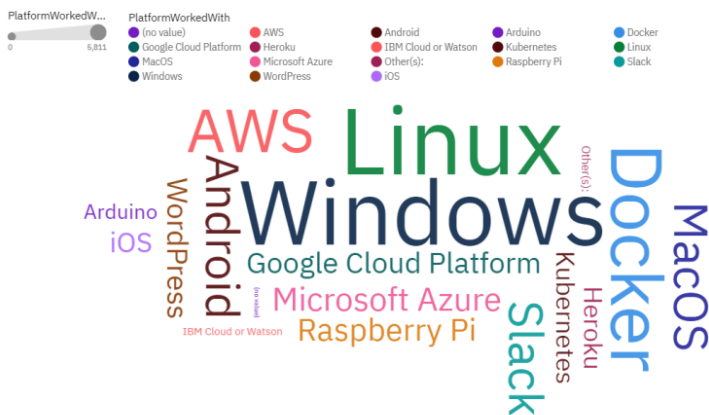
Top 10 Language Worked With



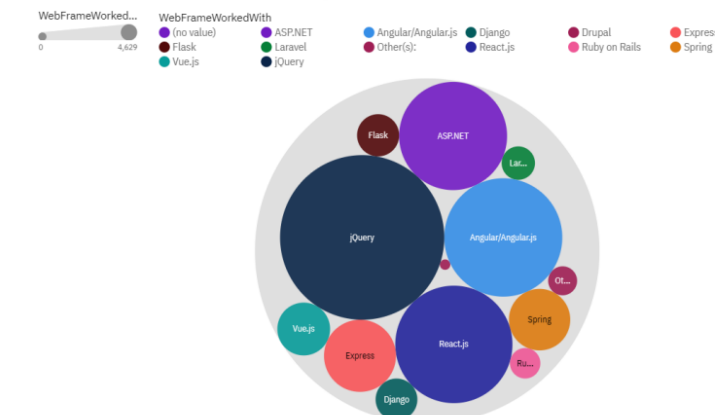
Top 10 Database Worked With



Platform Worked With

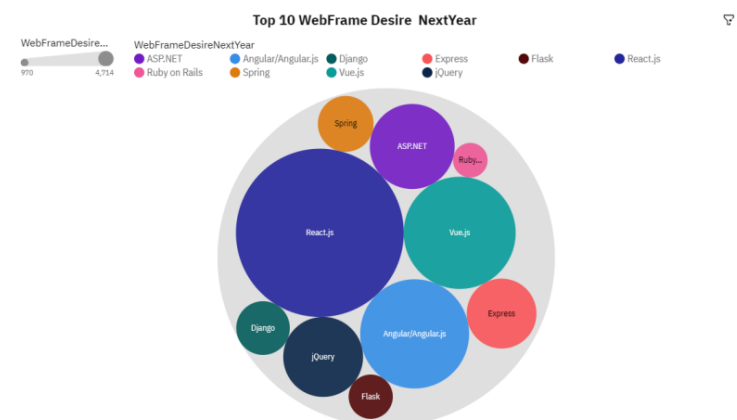
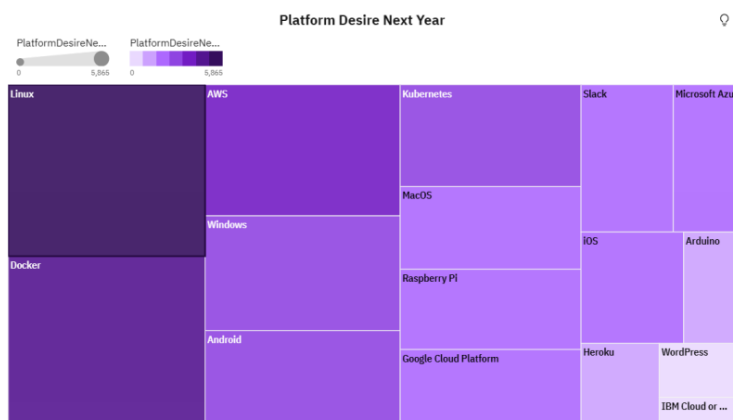
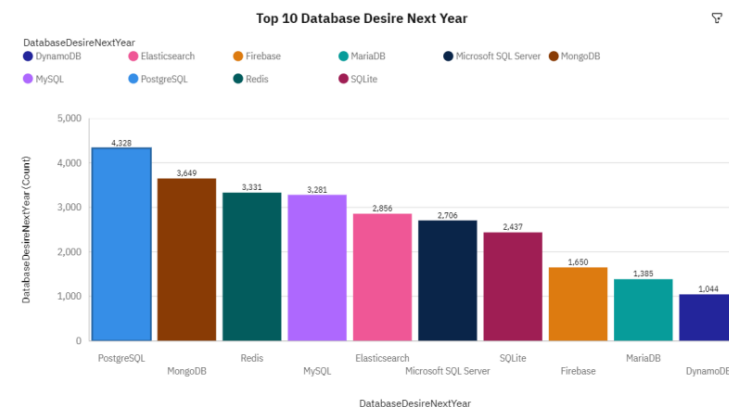
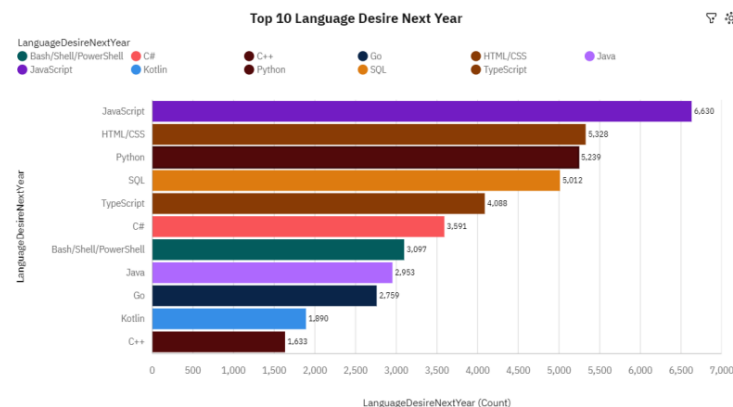


Top 10 Web Frame Worked With



DASHBOARD TAB 2

Future Technology Trend

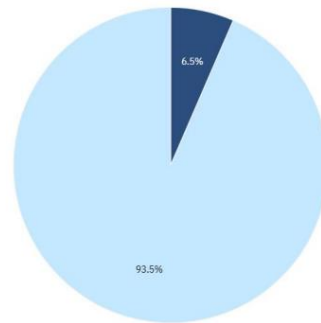


DASHBOARD TAB 3

Demographics

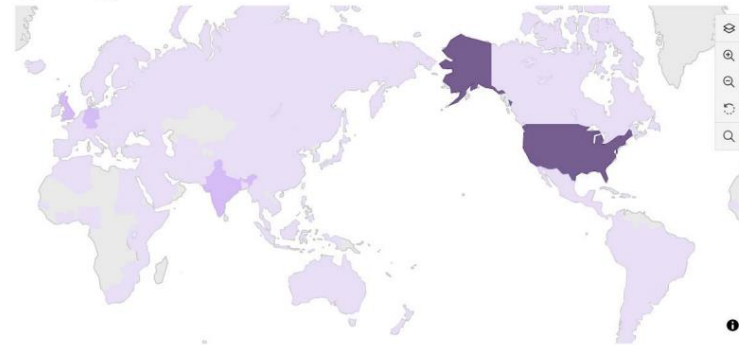
Respondent Classified by Gender

Gender
● Woman
● Man

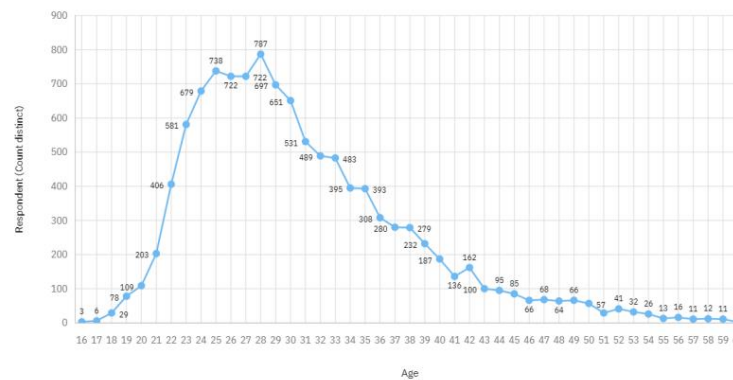


Respondent for Country regions

Respondent (Count)
1 3,327

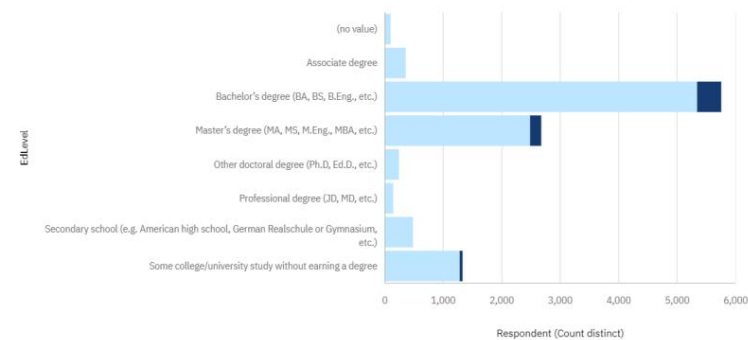


Respondent Count by Age



Respondent Count by Gender and Formal Education Level

Gender
● Man
● Woman



DISCUSSION



OVERALL FINDINGS & IMPLICATIONS

Findings

- JavaScript and HTML/CSS are the top-used and wanted programming languages, with TypeScript also catching developers' attention.
- Python is becoming more popular with developers.
- MySQL was the most used database in 2019, but PostgreSQL and MongoDB are getting more interest from developers.

Implications

- There's still a big demand for skilled web developers. People learning or thinking about it should also look into TypeScript along with JavaScript and HTML/CSS.
- As the demand for data experts to work with big data grows, developers should keep improving their skills in SQL and Python.
- NoSQL might become more popular in the future. Developers should work on their NoSQL skills to stay competitive.

CONCLUSION



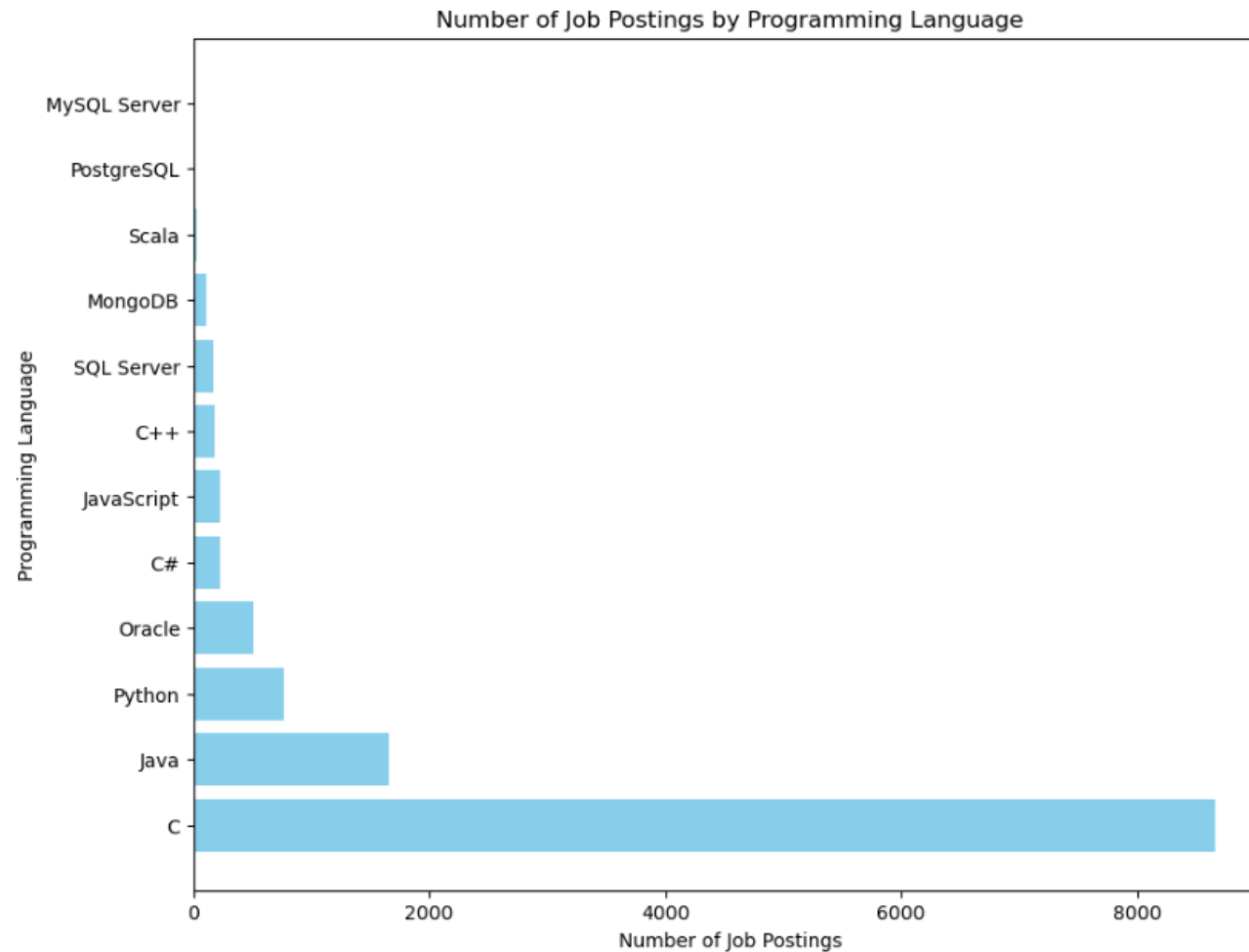
The Stack Overflow Developer Survey 2019 provided valuable insights into the evolving landscape of software development, helping developers and organizations understand current trends and make informed decisions.

- JavaScript and HTML were the top choices for developers for the current year. Python moved up to third place as a desired programming language to work with.

APPENDIX



JOB POSTINGS



POPULAR LANGUAGES

