



THE STACK OVERFLOW DEVELOPER SURVEY IN 2019

Huynh Trieu Ty

December 22, 2023

OUTLINE



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

EXECUTIVE SUMMARY



- Introducing the database and analysis goals
- Methodology
 - Data gathering and cleaning
 - Data analysis
 - Data Visualization
- Results presentation used graphs and trends
- Discussion of overall findings and implications about the previous results
- Conclusion of the research

INTRODUCTION



- Stack Overflow's annual Developer Survey is the largest and most comprehensive survey of people who code around the world
- Nearly 90,000 developers took the survey
- The results don't represent everyone in the developer community evenly
- Trends of the developers
- Characterization of developers around the world

METHODOLOGY



- Collect and explore survey data
 - APIs
 - Request library
 - Web Scraping
- Data Wrangling
- Exploratory data analysis
 - Analyzing the data distribution
 - Hanging Outliers
 - Correlation
- Data visualization
 - Highlight the distribution of data, relationships between data, the composition of data, and comparison of data
- Dashboards

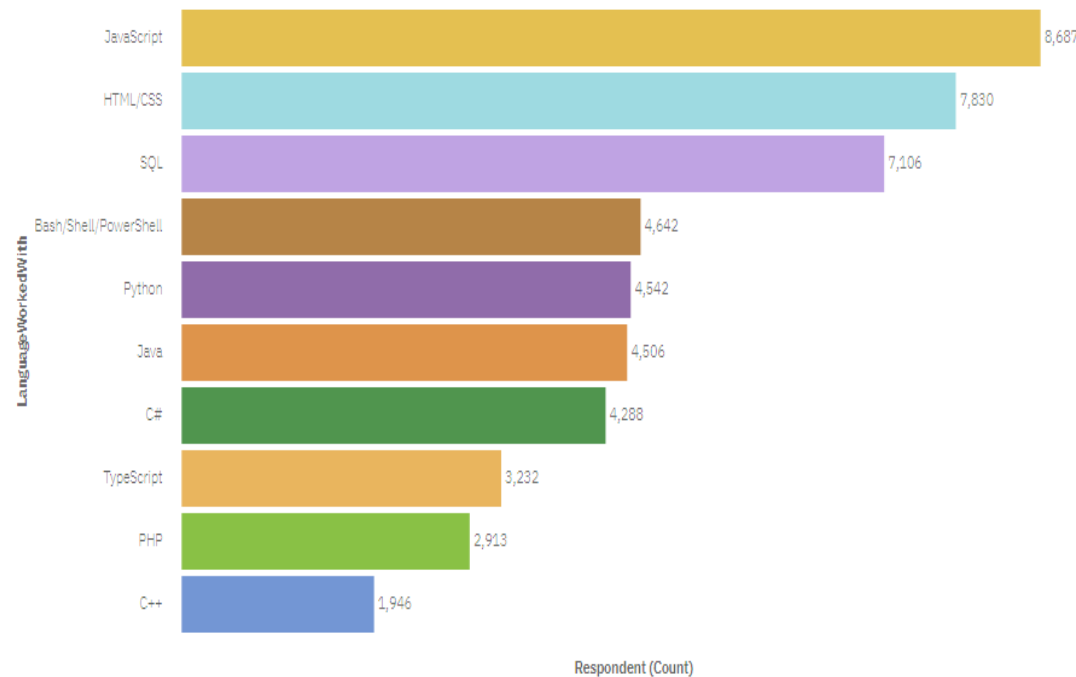
RESULTS



PROGRAMMING LANGUAGE TRENDS

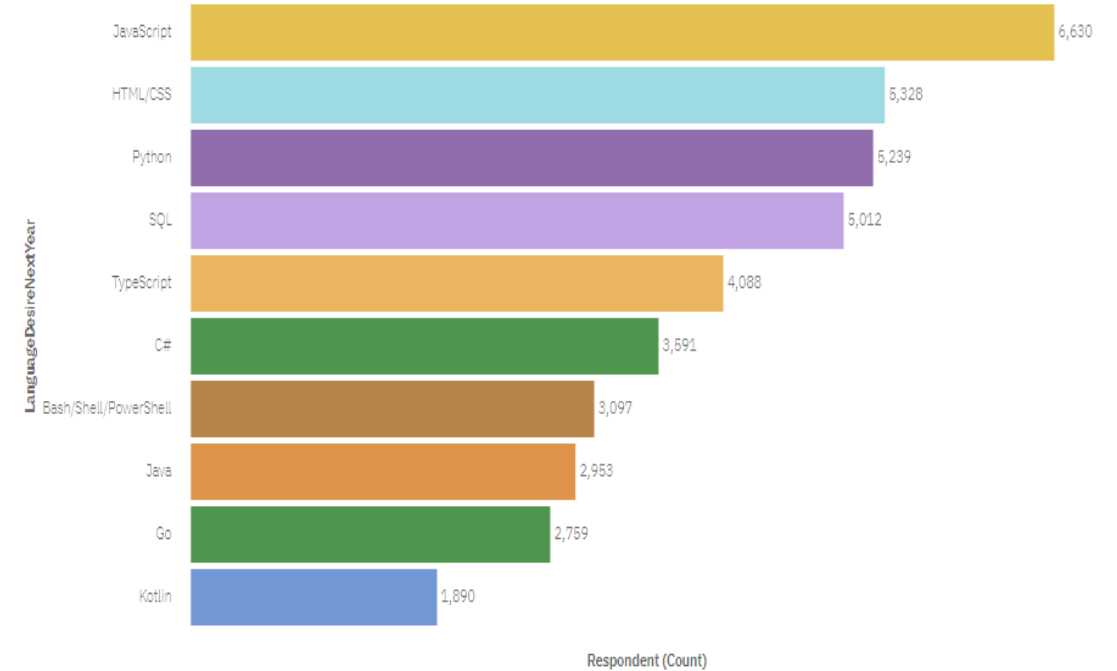
Current Year

Top 10 Language Worked With



Next Year

Top 10 Language Desire Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- JavaScript and HTML/CSS still keep top 1 and 2 language
- Python fastest growing
- Great interest in Kotlin and Go

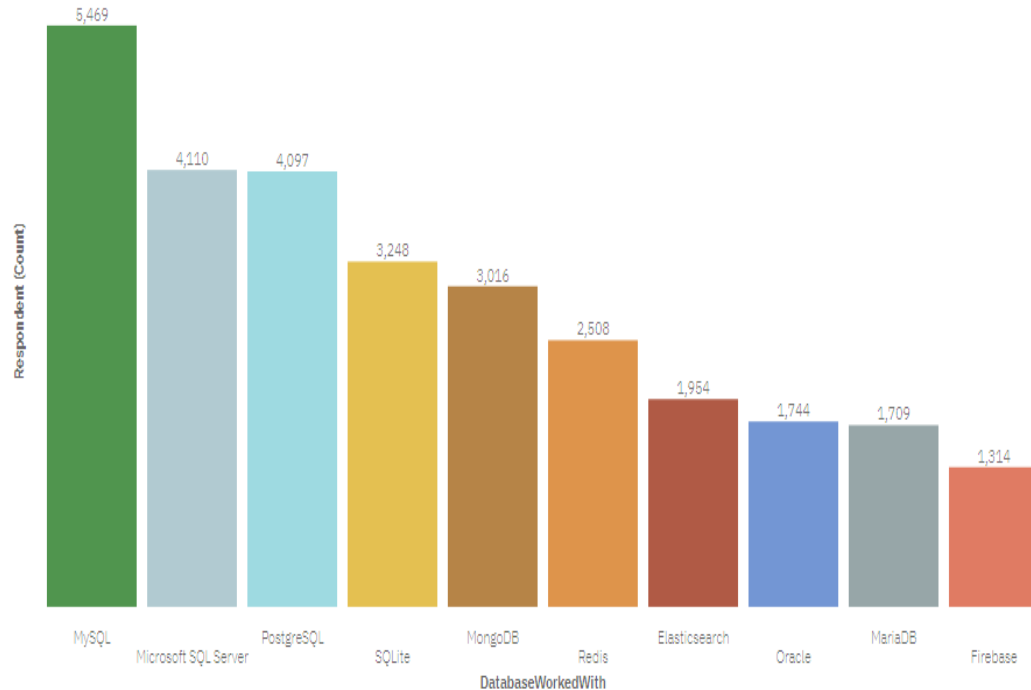
Implications

- There is a possibility that the developers migrant from PHP and C++ to Kotlin and Go

DATABASE TRENDS

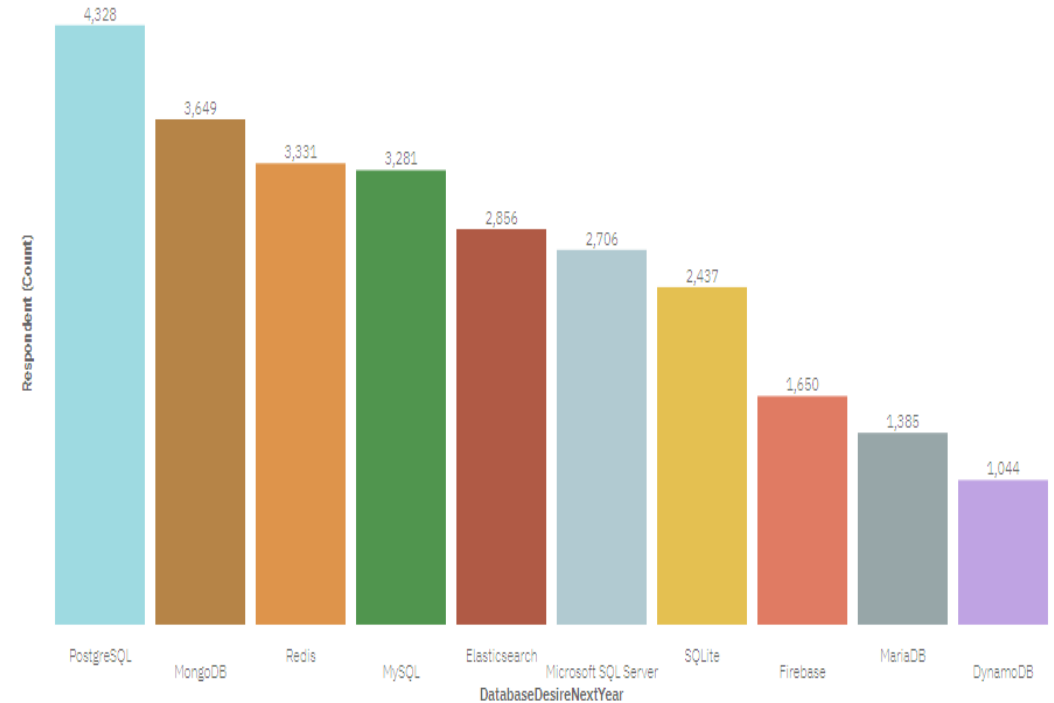
Current Year

Top 10 Database Worked With



Next Year

Top 10 Database Desire Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Lack of interest in MySQL and Microsoft SQL Server
- Increasing interest in PostgreSQL and MongoDB

Implications

- Developers's interest migrant from MySQL and Microsoft SQL Server to PostgreSQL and MongoDB

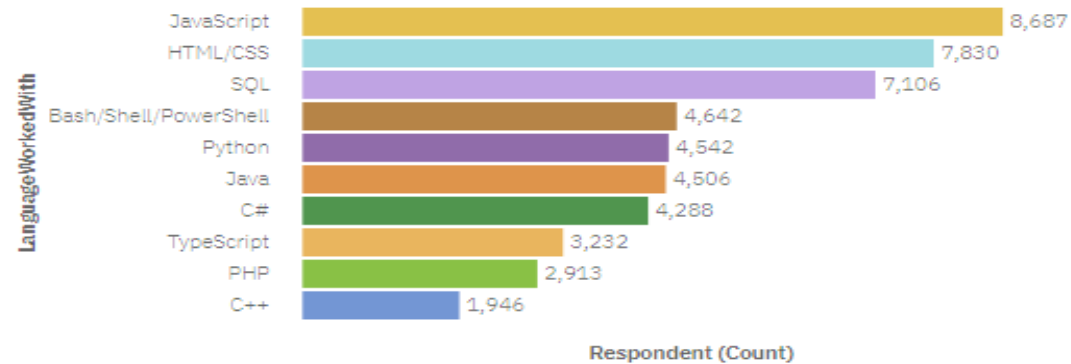
DASHBOARD



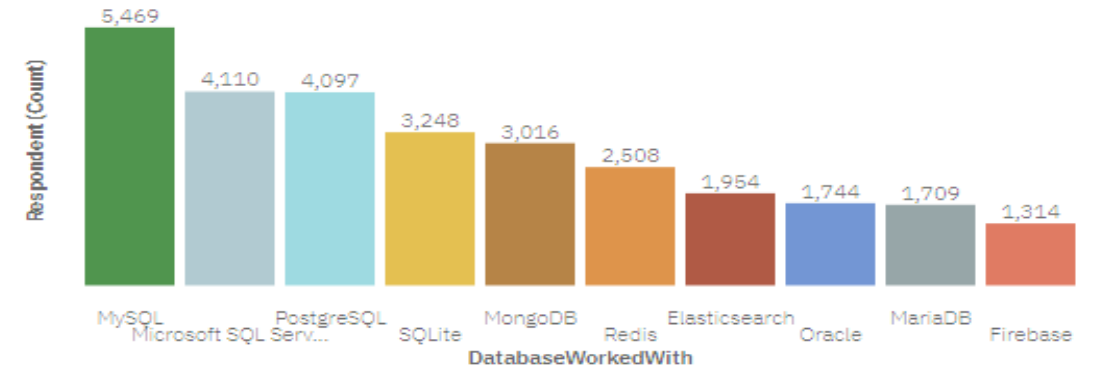
<https://dataplatform.cloud.ibm.com/dashboards/eeeb5d0d-715d-40f8-a4c8-d9f22585709d/view/0e68c60625981bf21ef4dce407c8290e2c36250be4bb830281d67b490a677097a8601398c87e1d5dda190164a7be150cc1>

CURRENT TECHNOLOGY USAGE

Top 10 Language Worked With



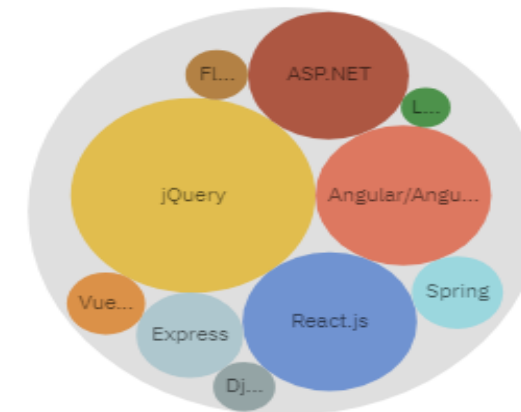
Top 10 Database Worked With



Platform Worked With

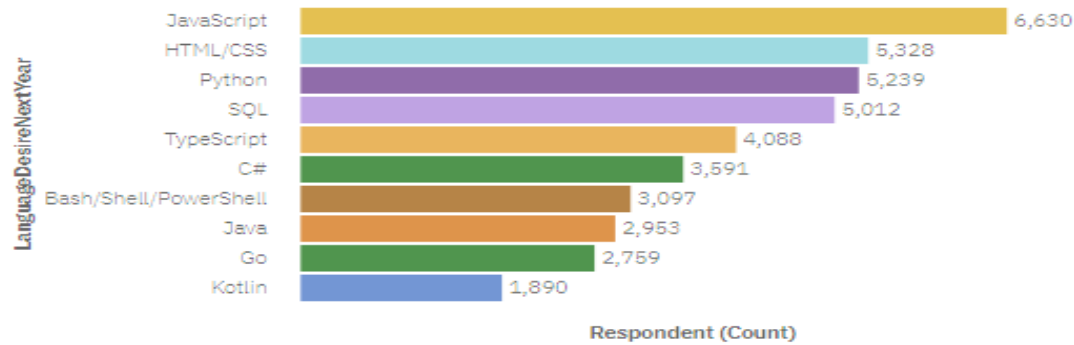


Top 10 Web Frame Worked With

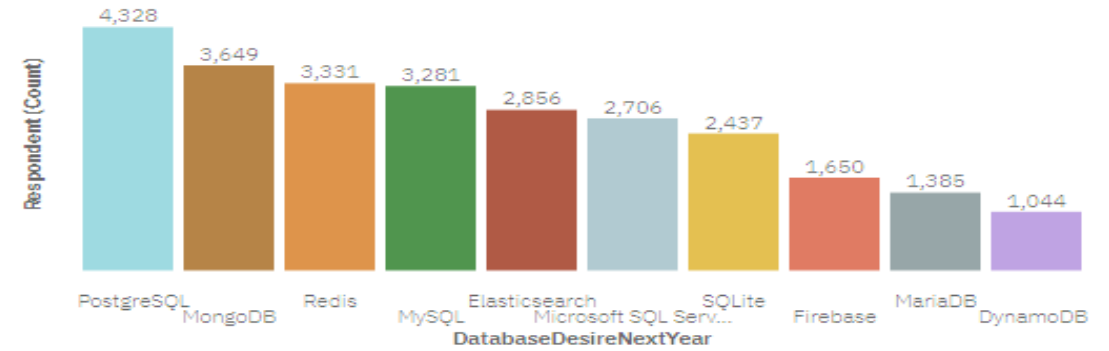


FUTURE TECHNOLOGY TREND

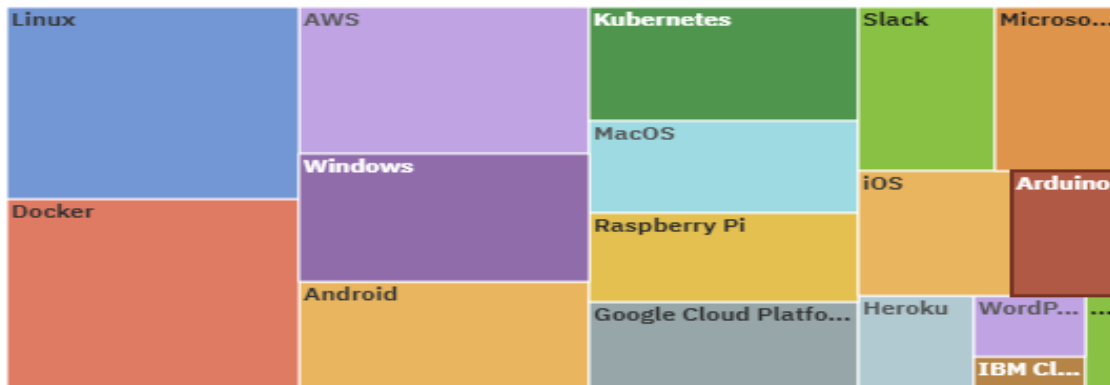
Top 10 Language Desire Next Year



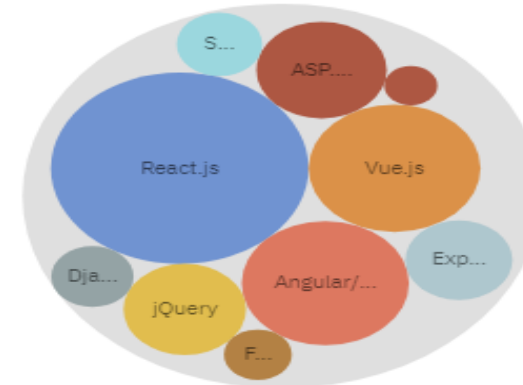
Top 10 Database Desire Next Year



Platform Desire Next Year



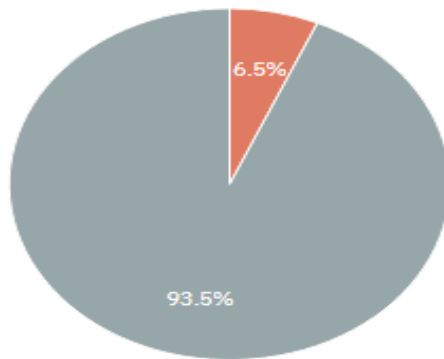
Top 10 Web Frame Desire Next Year



DEMOGRAPHICS

Respondent classified by Gender

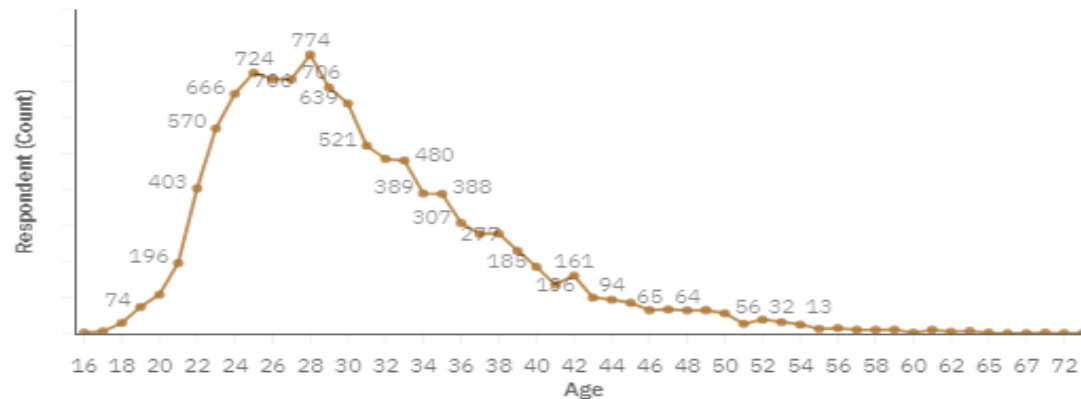
Gender
● Woman ● Man



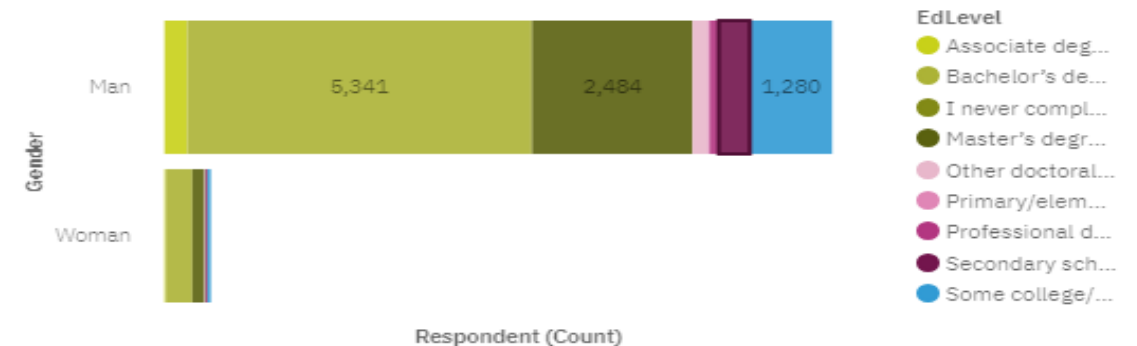
Respondent for Countries



Respondent by Age



Respondent by Gender, classified by Formal Education Level



DISCUSSION



OVERALL FINDINGS & IMPLICATIONS

Findings

- JavaScript and HTML/CSS used widely and Python is getting popular
- Over 90% developers are male
- Developers mostly located in developed countries
- The Age of most developers is around 22 to 35

Implications

- JavaScript, HTML/CSS and Python are gaining users
- Gender , location and age distribution of developers

CONCLUSION

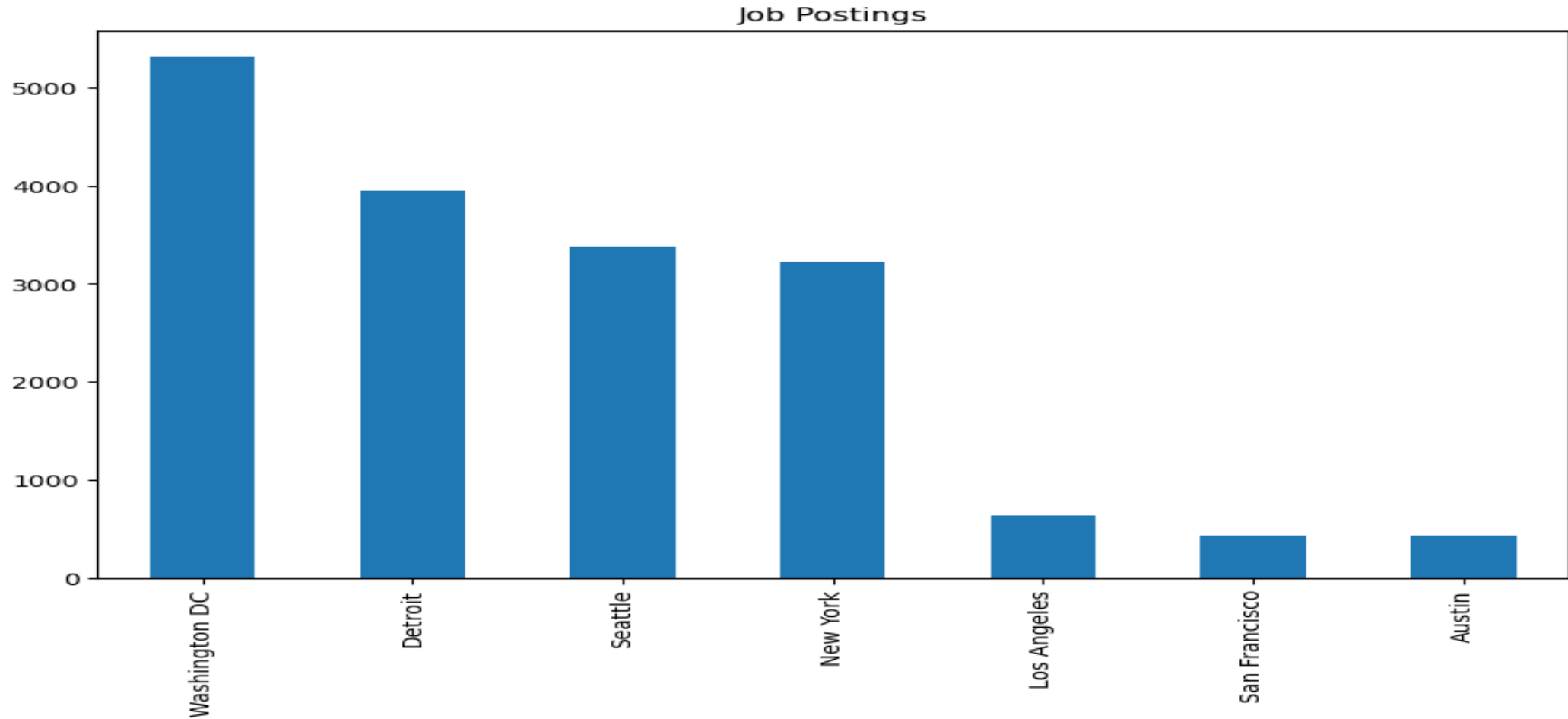


- Developers are people with clear characteristics such as age, gender, location,...
- The popular trends of different languages, databases, web frame and platforms can be obtained

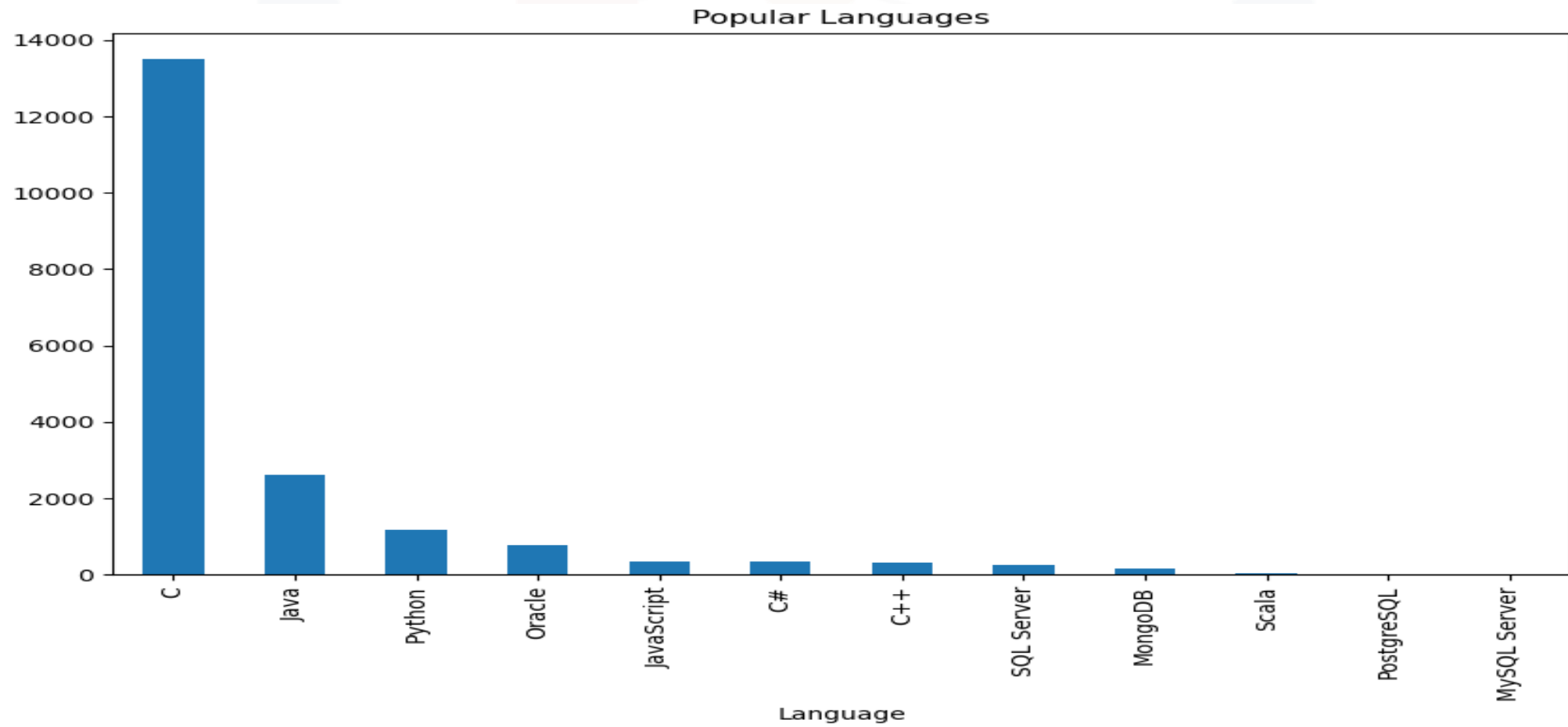
APPENDIX



JOB POSTINGS

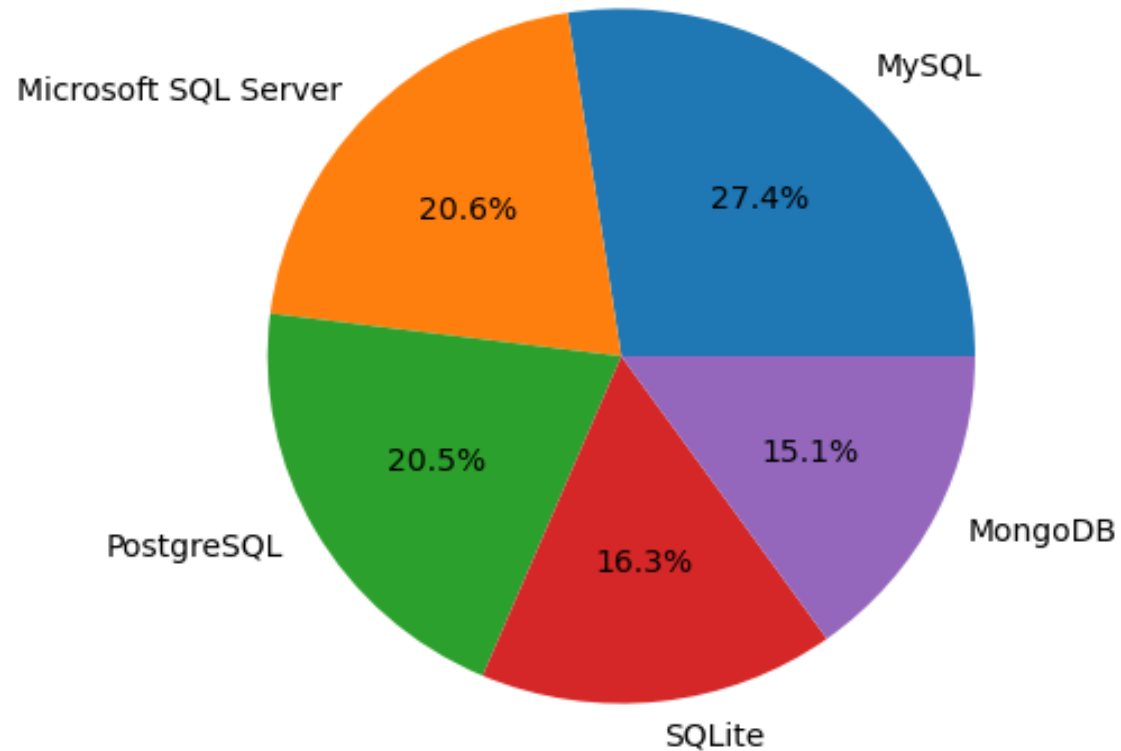


POPULAR LANGUAGES

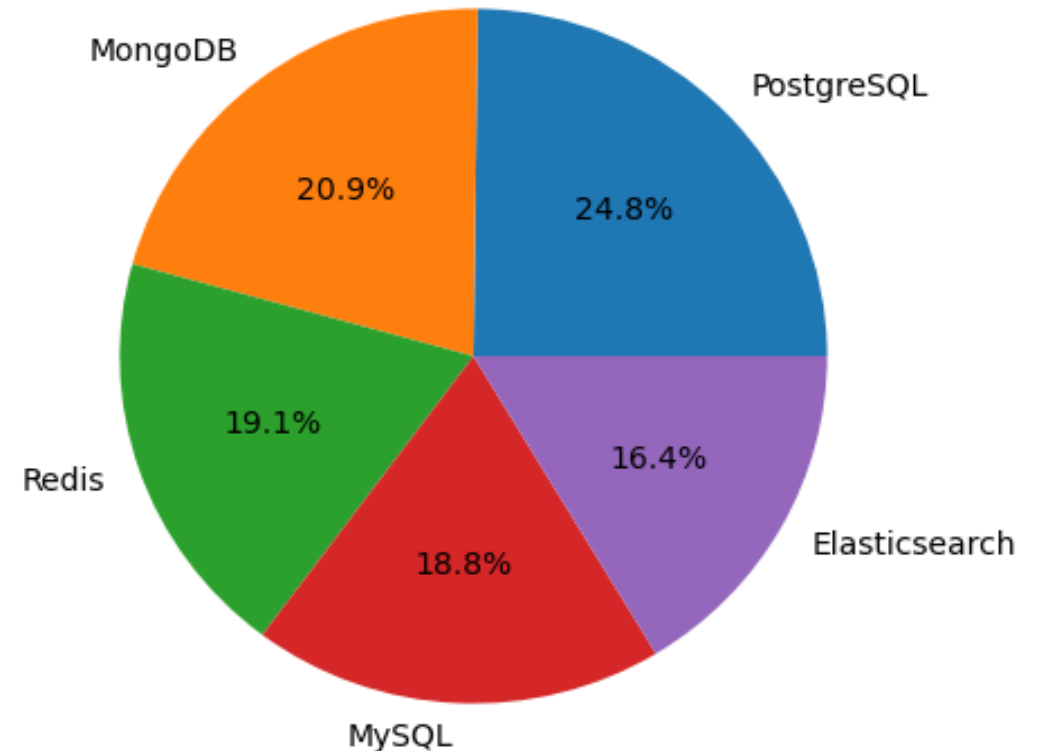


DATABASE

Top 5 Database Worked With



Top 5 Database Desire Next Year





THANK YOU FOR YOUR ATTENTION

Huynh Trieu Ty

December 22, 2023