



Analyzing Developers' Technology Trends

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EXECUTIVE SUMMARY



- Analyze key technology trends influencing the development community.
- Assess the impact of these trends on software development in terms of:
 - Programming Languages
 - Databases
 - Web Frames
 - Platforms
- Identify and predict the future trends.
- Demographics and it's influence.
- Gender gap

INTRODUCTION



- **About:**
Analyze technology trend in software and web development among developers around the world
- **Purpose of this Analysis:**
 - Identify the top programming languages, database, platform and web frame skills in demand
 - Identify skill requirements for future
 - Identify human resource gap in the industry
- **Audience for this Presentation:**
 - Programmers
 - IT industry leaders
 - Computer science students

METHODOLOGY



- Data Collection (Sources)
 - Stack overflow developer 2019 survey
 - GitHub job postings
 - Programming languages annual salary
- Data Wrangling
- Data Exploration
- Data Cleaning
- Data Visualization
 - Python matplotlib & turtle
 - IBM Cognos
- Presentation

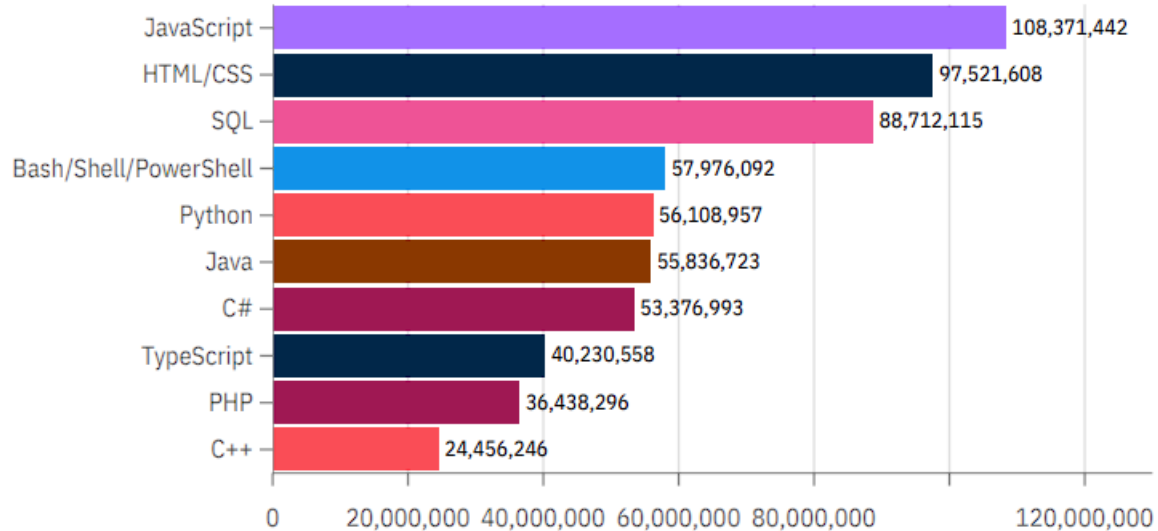
RESULTS

	Respondent	LanguageWorkedWith	LanguageDesireNextYear	DatabaseWorkedWith	DatabaseDesireNextYear	PlatformWorkedWith
0	4	C	C	MySQL	MySQL	Linux
1	4	C++	C#	SQLite	SQLite	Windows
2	4	C#	JavaScript	NaN	NaN	NaN
3	4	Python	SQL	NaN	NaN	NaN
4	4	SQL	NaN	NaN	NaN	NaN
...
74584	25142	Go	Python	NaN	NaN	NaN
74585	25142	HTML/CSS	R	NaN	NaN	NaN
74586	25142	PHP	NaN	NaN	NaN	NaN
74587	25142	Python	NaN	NaN	NaN	NaN
74588	25142	R	NaN	NaN	NaN	NaN

PROGRAMMING LANGUAGE TRENDS

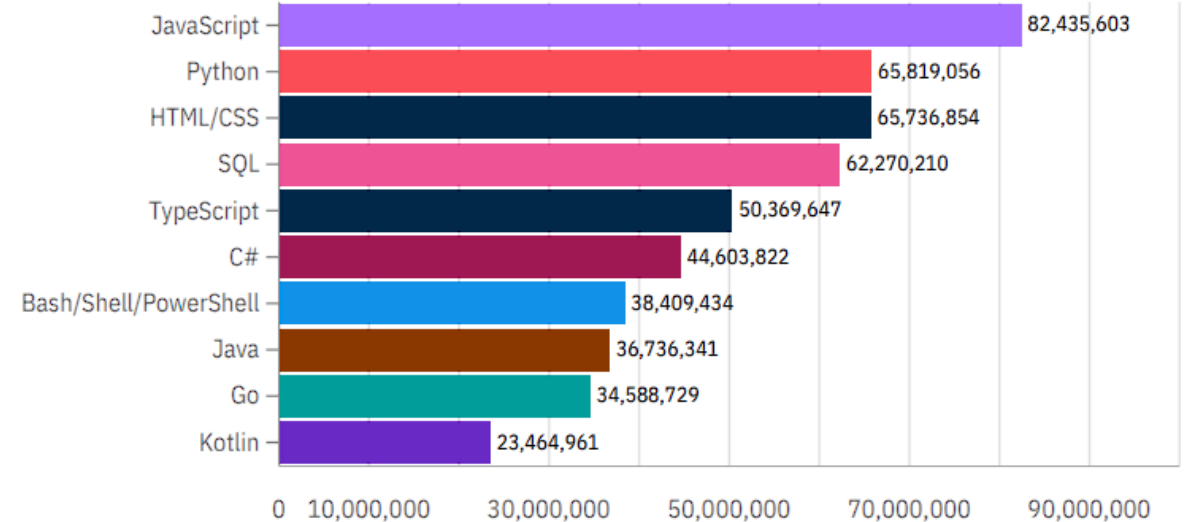
Current Year

Top 10 Languages Worked With



Next Year

Top 10 Most Desired Languages for the Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- JavaScript is top trending language in the world
- Python and TypeScript are becoming more and more popular
- HTML/CSS and SQL still has great portion in language usage trend

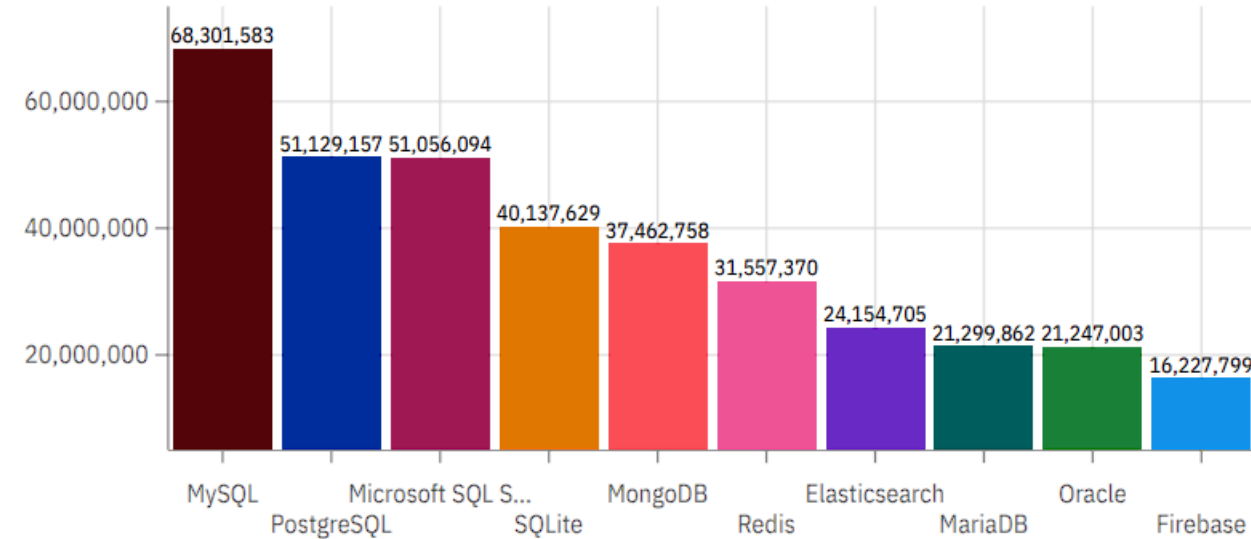
Implications

- Web developments and Web developers are still in high demands
- JavaScript and TypeScript are crucial to learn for developers
- Python is the new trending language, especially popular in AI fields

DATABASE TRENDS

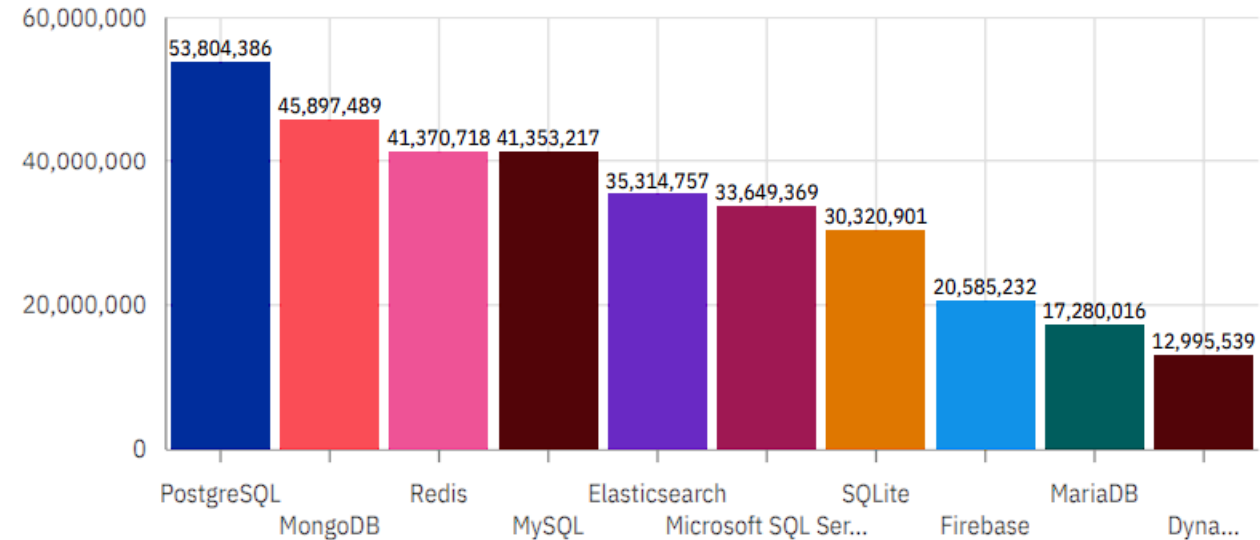
Current Year

Top 10 Databases Worked With



Next Year

Top 10 Most Desired Database for the Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL is the most popular database
- There are still a lot of companies using Microsoft SQL Server
- MongoDB and Redis are the most favorable NoSQL database

Implications

- Open-source databases like MySQL are still preferable
- Software development and Big Data technology still requires SQL
- NoSQL databases will make an impact for relational databases

DASHBOARD

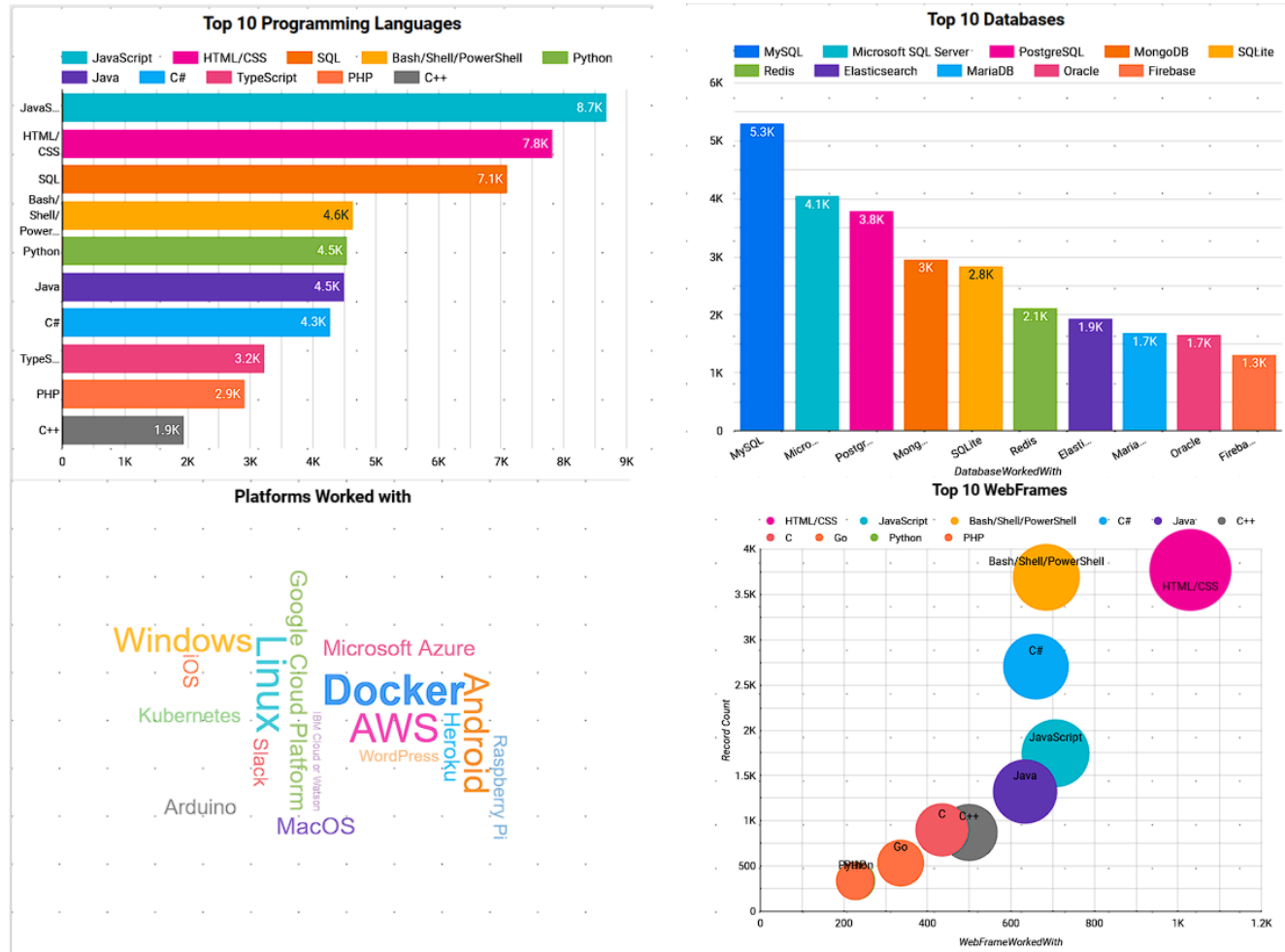


Dashboard GitHub Link:

<https://github.com/kal-aj/IBM-Data-Analyst-Capstone-Project/blob/e6a5aa312a18bf466167e64234891a944848e77e/Part%20A%20-%20Building%20a%20dashboard%20with%20IBM%20Cognos%20Analytics.pdf>

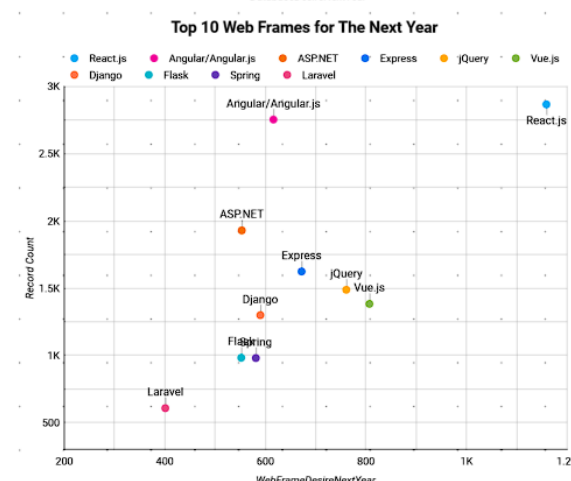
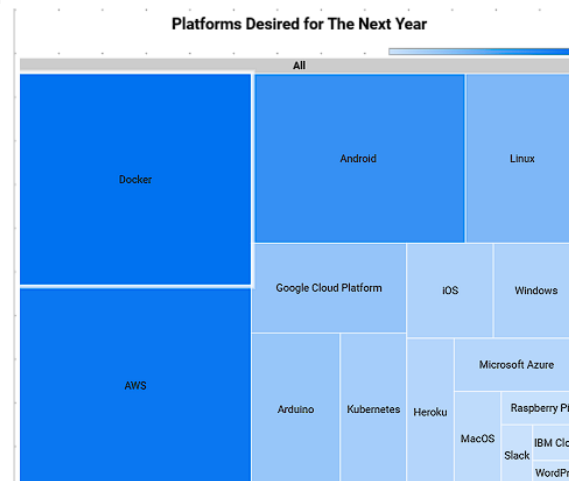
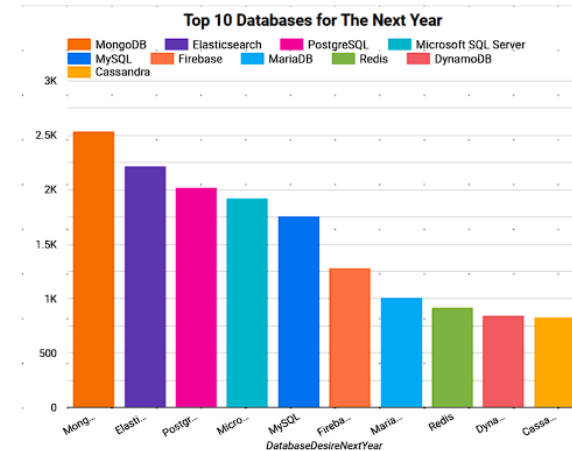
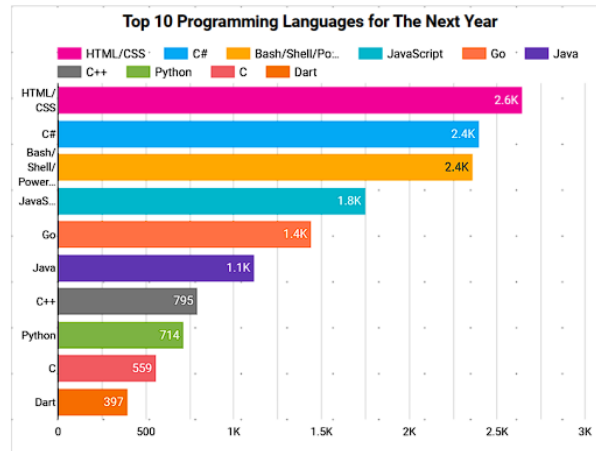
DASHBOARD TAB 1

Current Technology Usage



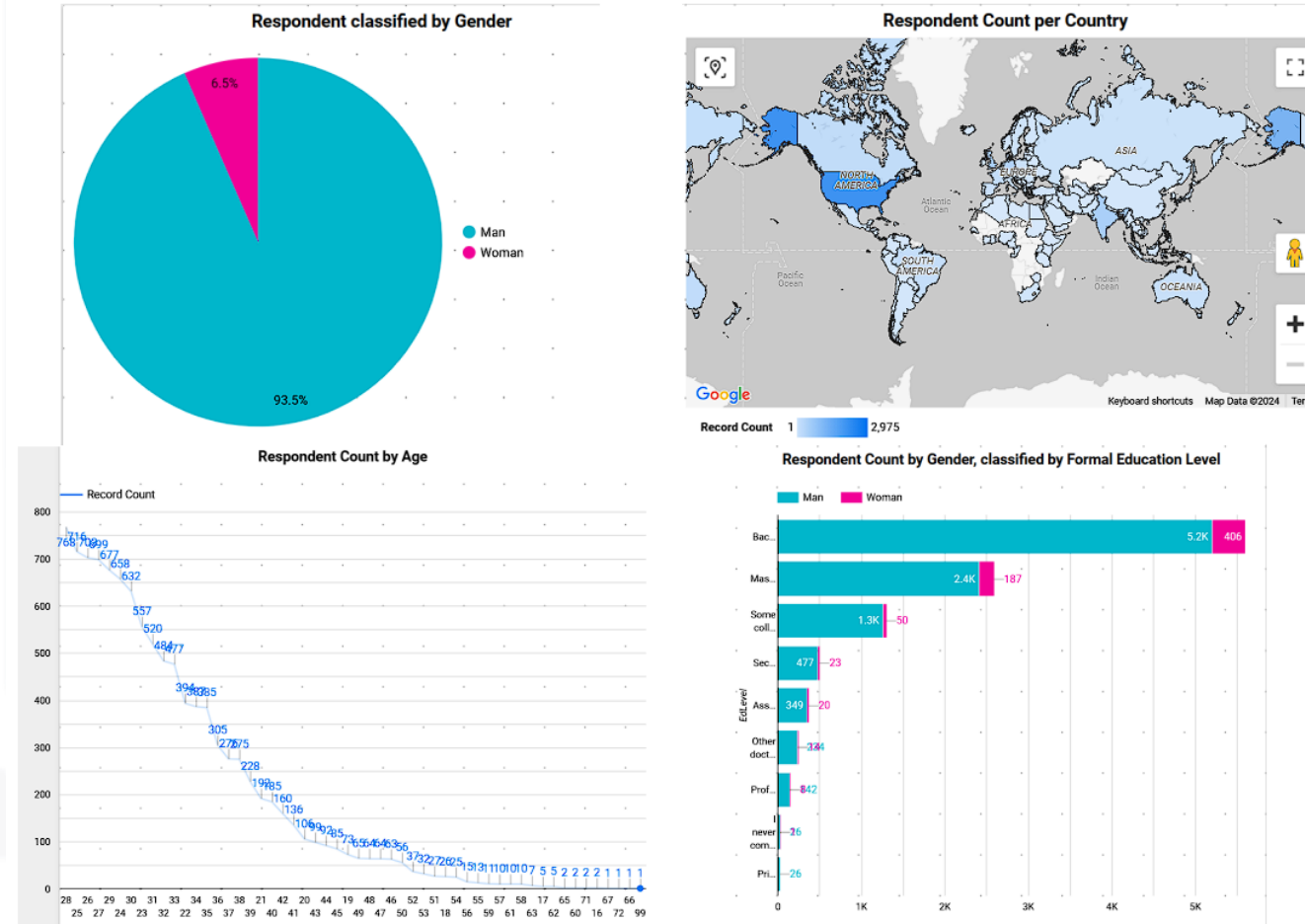
DASHBOARD TAB 2

Future Technology Trend



DASHBOARD TAB 3

Demographics



DISCUSSION



- Technology Trends now and future
- Training and Reskilling workers
- Females participation in Technology field
- Bridge divide of technology gaps in developing countries
- Age and education discrimination

OVERALL FINDINGS & IMPLICATIONS

Findings

- Technology trends changes every year
- USA, India and China are the countries with most developers
- There are extreme gender and age discrimination
- Docker and AWS are the most popular platform

Implications

- Programmers should always follow the latest technology trends
- More countries should have the equal chance to be exposed to new technology
- Gender and Age should not be one of the concerns or benefits of Employment

CONCLUSION



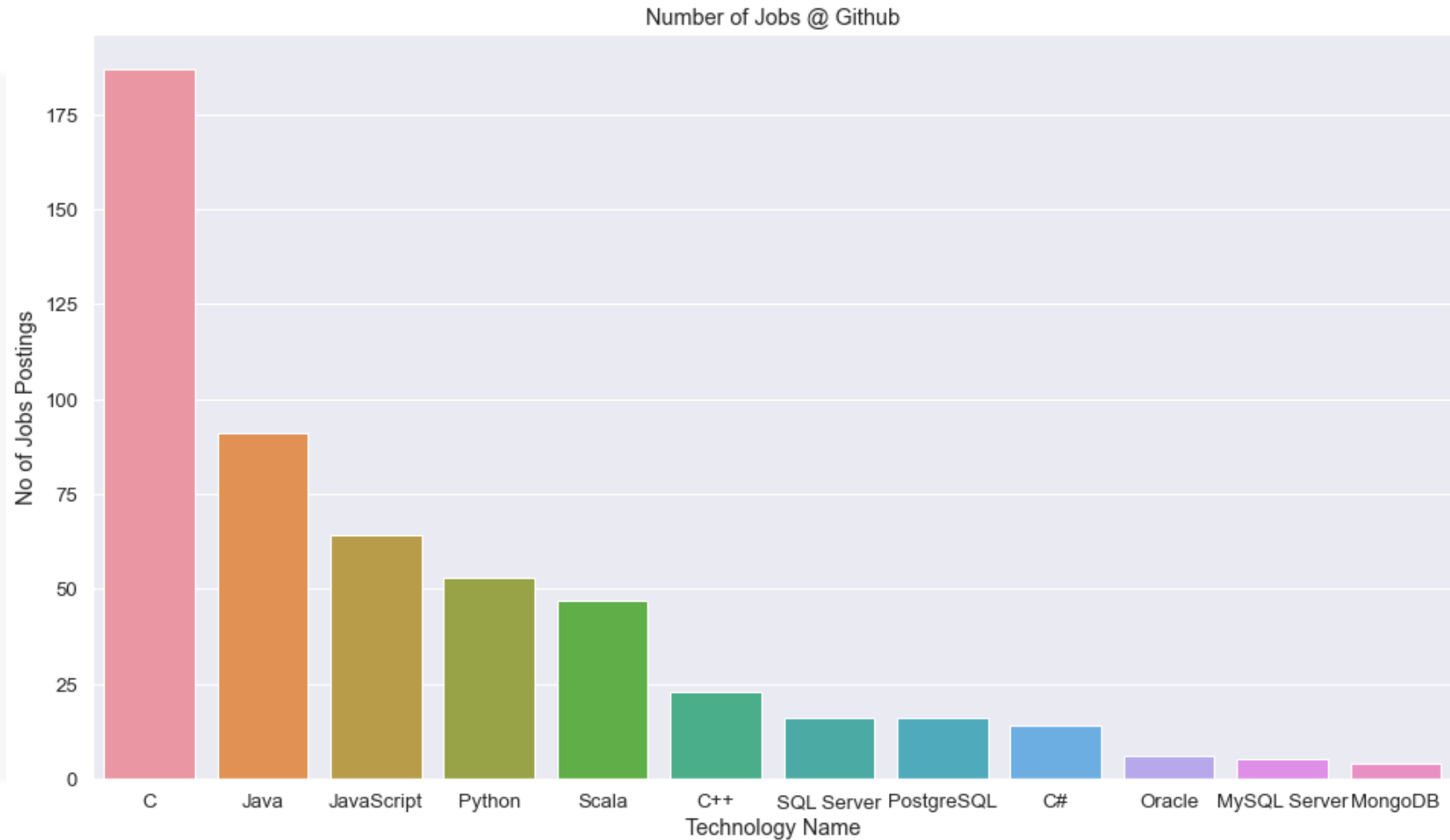
- Javascript, HTML/CSS,SQL always have a constant demand
- Demand for Python is very high and is greatly increasing
- PostGRE DB is seems to be highly liked and useful than the rest, while MySQL is dropping in demand
- Expertise in Linux would be very beneficial

APPENDIX



- Stack Overflow's annual Developer Survey is the largest and most comprehensive survey of people who code around the world
- Results don't represent everyone in the developer community evenly
- Nearly 90,000 developers trends to predict where the developers are going

JOB POSTINGS



POPULAR LANGUAGES

