



Language to learn: Preparing for the future in programming

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OUTLINE



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EXECUTIVE SUMMARY



- Trends in current technology usage:
 - Programming languages
 - Databases
 - Platforms
 - Web frameworks
- Emerging technology trends:
 - Programming languages
 - Databases
 - Platforms
 - Web frameworks
- Demographic survey:
 - Differences in technology usage and access based on country and gender.

INTRODUCTION



Title: Analysis of Technology Trends in Software and Web Development Among Developers Worldwide

Objective:

- To analyze current technology trends in software and web development worldwide.
- To identify the most in-demand programming languages, databases, platforms, and web frameworks.
- To identify the skills that will be required in the future.
- To identify gaps in the availability of human resources within the industry.

Target audience:

- 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

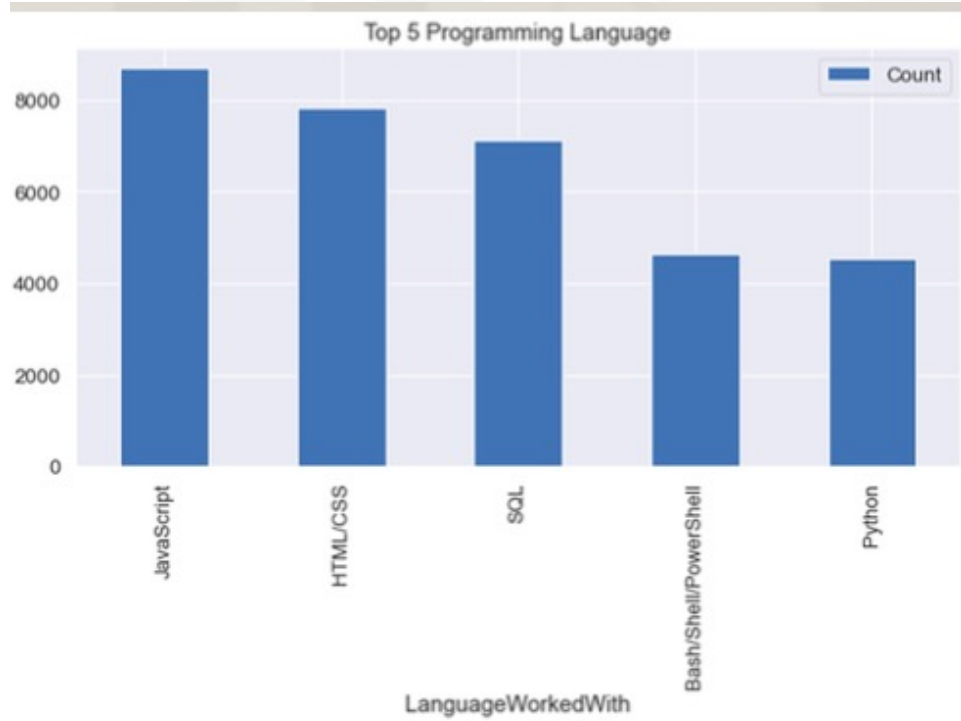
Presentation

RESULTS

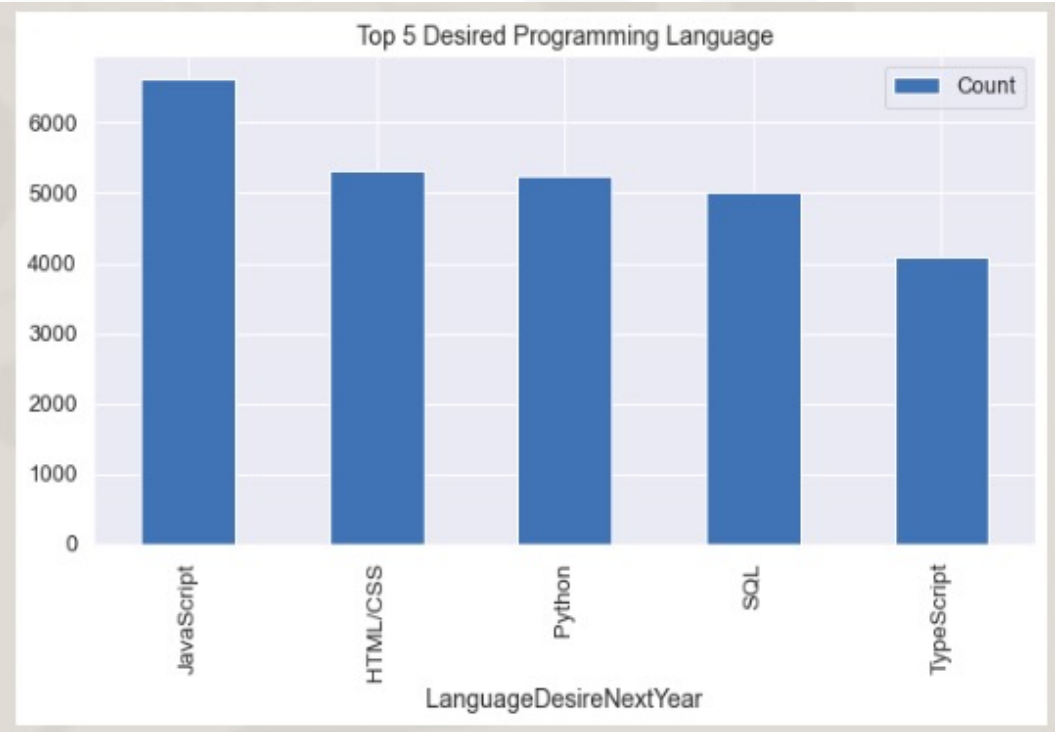
	Respondent	LanguageWorkedWith	LanguageDesireNextYear	DatabaseWorkedWith	DatabaseDesireNextYear	PlatformWorkedWith
0	4	C	C	MySQL	MySQL	Linux
1	4	C++	C#	SQLite	SQLite	Windows
2	4	C#	JavaScript	NaN	NaN	NaN
3	4	Python	SQL	NaN	NaN	NaN
4	4	SQL	NaN	NaN	NaN	NaN
...
74584	25142	Go	Python	NaN	NaN	NaN
74585	25142	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



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

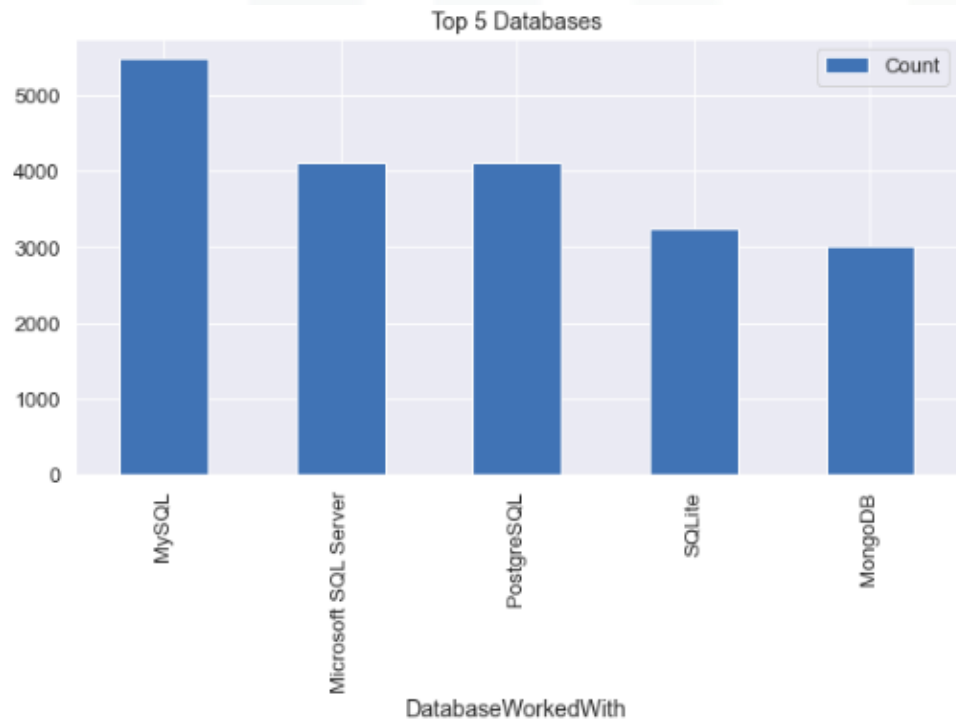
- JavaScript remains the most popular programming language in the world.
- Python and TypeScript are rapidly increasing in popularity.
- HTML/CSS and SQL continue to be widely used and maintain a significant portion of the language usage trend.

Implications

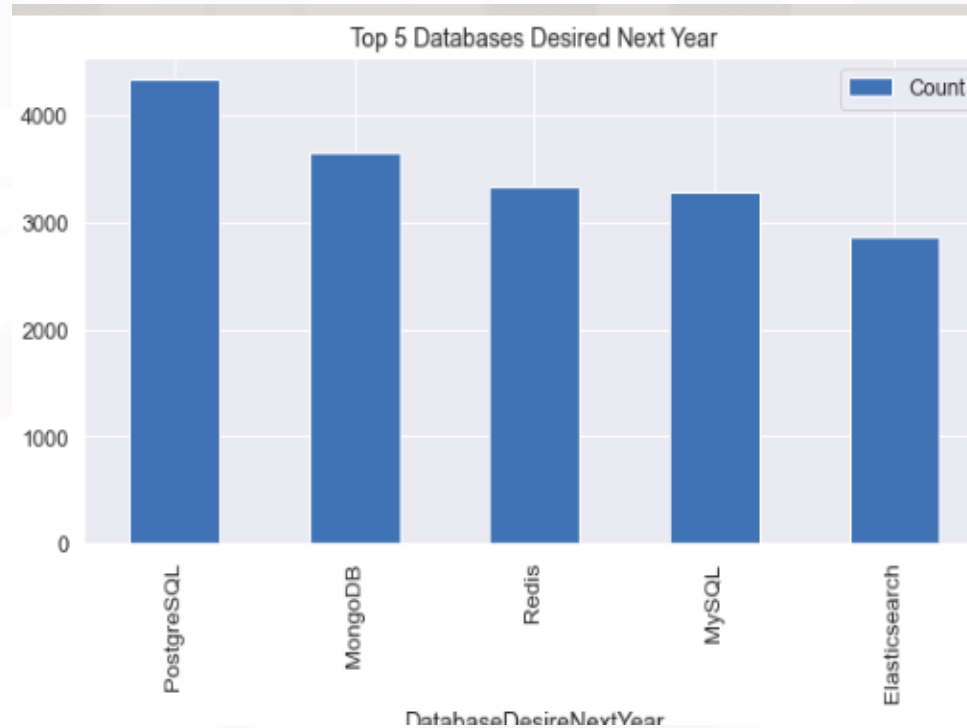
- The demand for web development and web developers remains high.
- For developers, it is crucial to learn JavaScript and TypeScript.
- Python is an increasingly popular language, particularly in the field of artificial intelligence.

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL continues to be the most widely used database.
- Many companies still rely on Microsoft SQL Server for their database needs.
- MongoDB and Redis are among the most popular NoSQL databases.

Implications

- Open-source databases such as MySQL continue to be a preferred choice for many users.
- SQL is still essential for software development and big data technologies.
- NoSQL databases are increasingly gaining importance and have the potential to complement or replace relational databases in certain use cases.

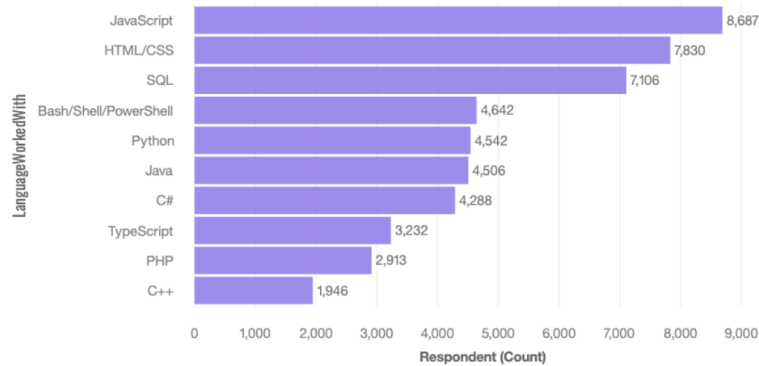
DASHBOARD



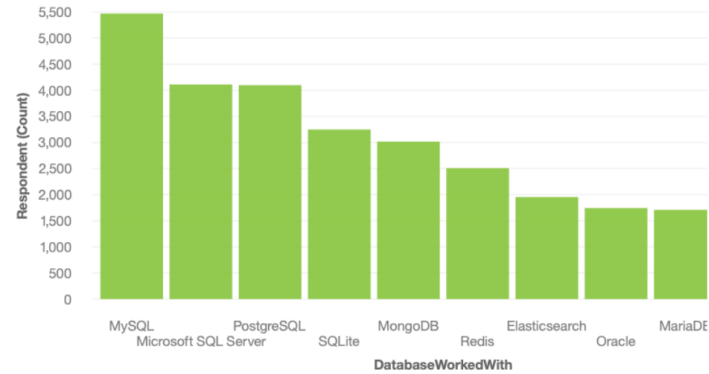
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DASHBOARD TAB 1

Top 10 Languages in Demand



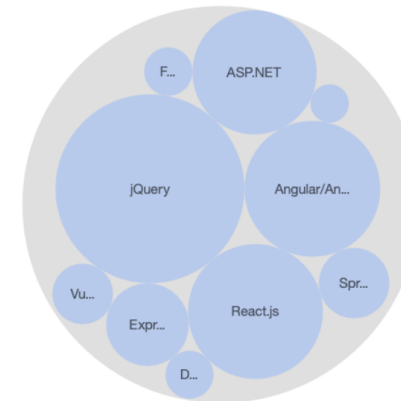
Top 10 Databases in Demand



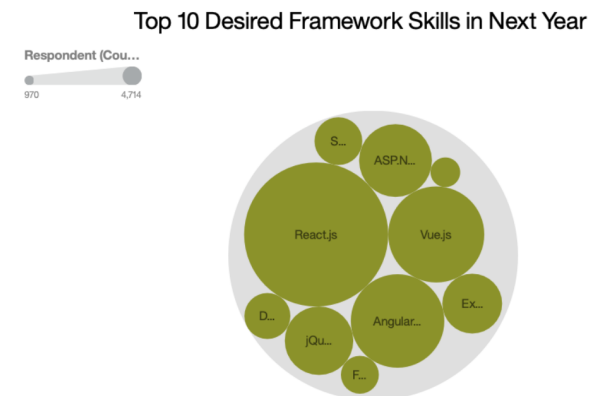
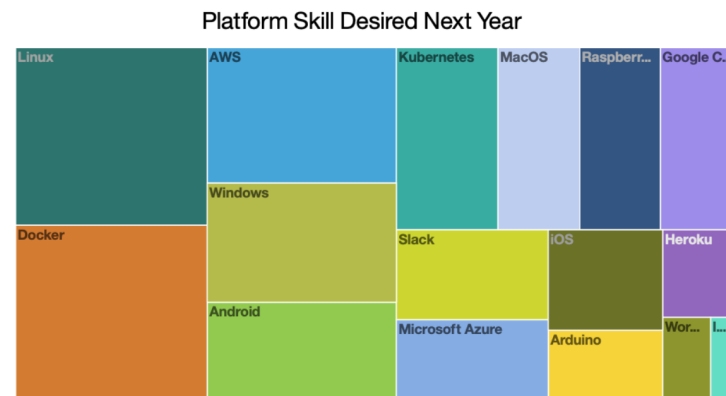
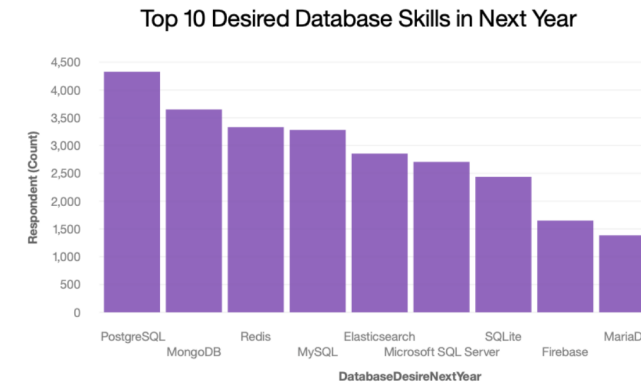
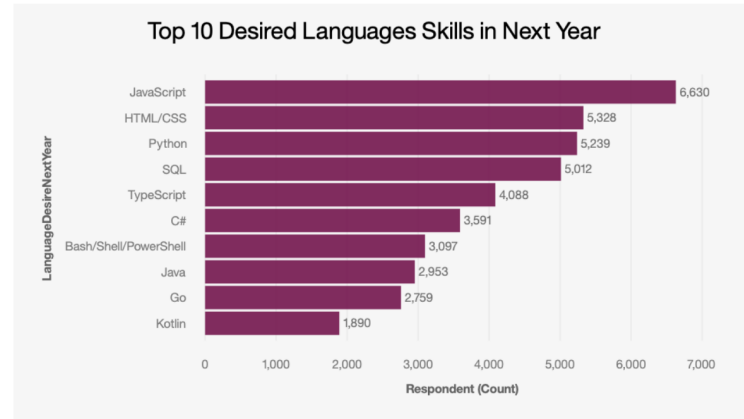
Platforms Worked With



Top 10 Web Frames in Demand

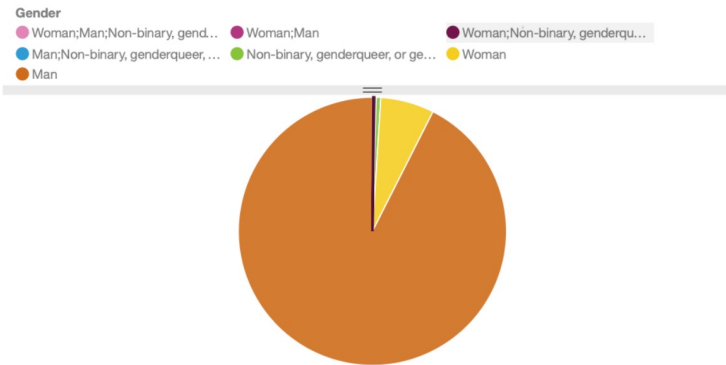


DASHBOARD TAB 2

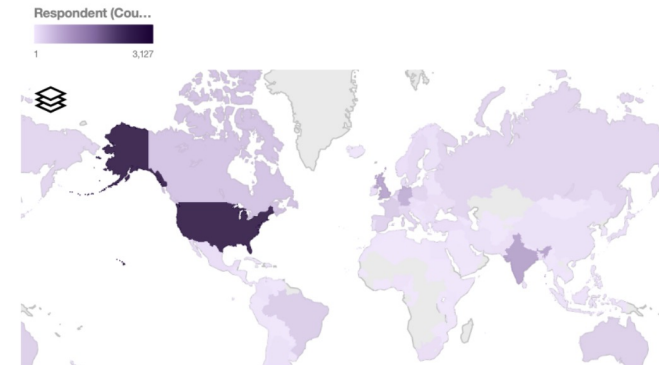


DASHBOARD TAB 3

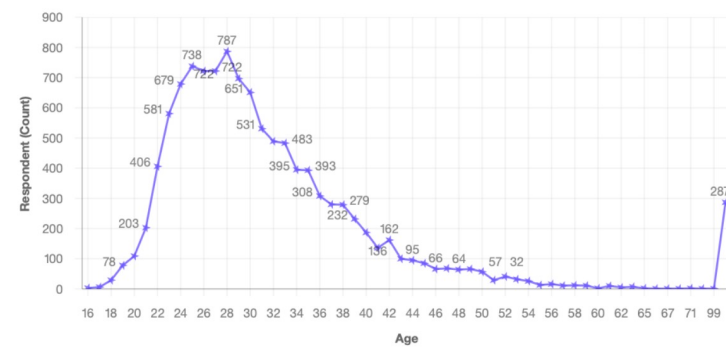
Respondent classified by Gender



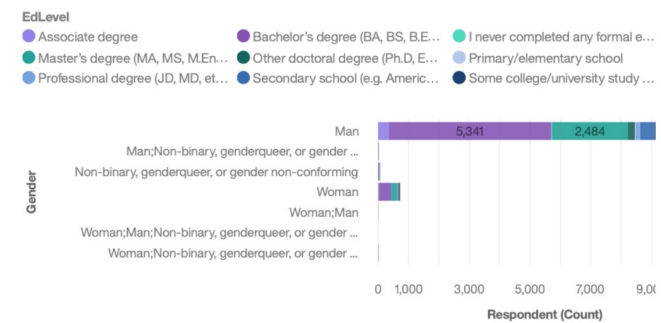
Respondent Count for Countries



Respondent Count by Age



Respondent Count by Gender, classified by Formal Education Level



DISCUSSION

- 
- Current and Future Trends in Technology Usage
 - Discrimination in the IT Industry Based on Gender, Age, and Education

OVERALL FINDINGS & IMPLICATIONS

Findings

- Technology trends are constantly changing every year.
- The United States is a leading technology country.
- There is significant discrimination in the technology industry based on gender and age.
- Docker and AWS are among the most widely used platforms.

Implications

- It is important for programmers to keep up with the latest technology trends.
- More countries should have equal opportunities to access and adopt new technologies.
- Employment decisions should not be based on an individual's gender or age.

CONCLUSION



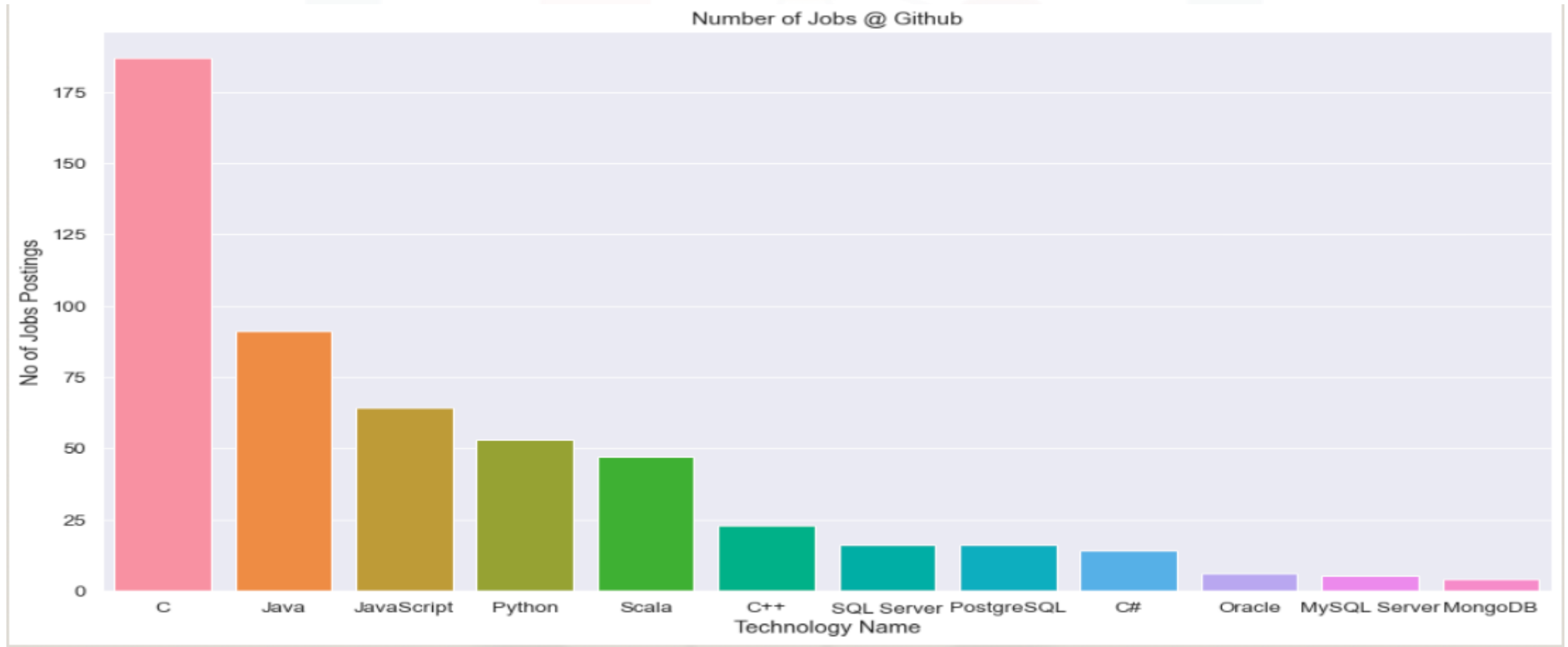
- Trends in Technology
- Trends in Programming Languages, Databases, Platforms, and Web Frameworks
- Trends in Demographics
- Gender and Education Trends
- Trends in Programming Languages and Salary Trends

APPENDIX



- IBM Cognos Dashboard Embedded (CDE) is a business intelligence service powered by artificial intelligence that supports the entire data analytics process, from discovery to operationalization. It offers users data discovery capabilities to visually explore and interact with their data, enabling them to identify key insights for making data-driven decisions. With CDE, users can easily assemble information into interactive and visually appealing dashboards, without requiring formal training.

JOB POSTINGS



POPULAR LANGUAGES

