Information Technology Trends

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OUTLINE

- Executive Summary
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- Methodology
- Results
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  - Dashboard
- Discussion
  - Findings & Implications
- Conclusion
- Appendix

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EXECUTIVE SUMMARY

Trends

- Docker is the most common use platform
- The use of Python will increase 15 % next year
- Top 3 used databases will all be NoSQL databases in the following year

Demographics

- 11211 respondents
- 93.5% men
- 6.5% women
- 8477 (75.6%) respondents are at the age between 21 to 35

INTRODUCTION

• 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 based on the top

programming languages, database, platform and web frame in the next year

• 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

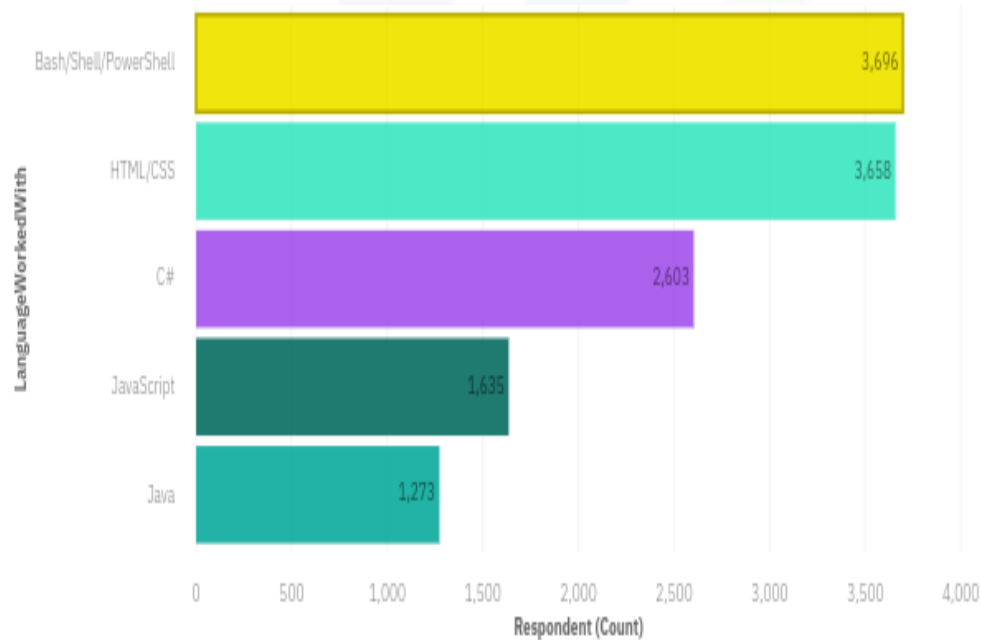Data Wrangling using python

Data Exploration using python

Data Visualization using python and IBM Cogns

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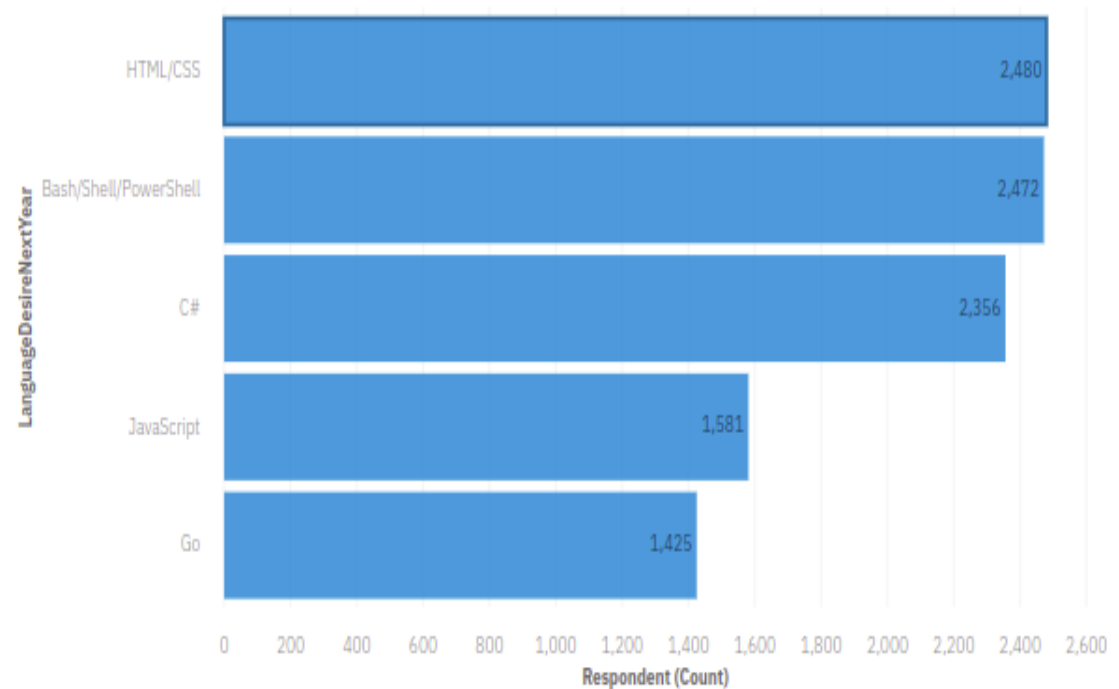
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RESULTS

PROGRAMMING LANGUAGE TRENDS

Current Year

Next Year

# PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Bash/Shell/Power Shell and HTML/CSS are top 2 languages both this year and next year

- Go will be in the fifth rank instead of java

- Users of Bash/Shell/Power Shell and HTML/CSS will decrease by 30% in the following year
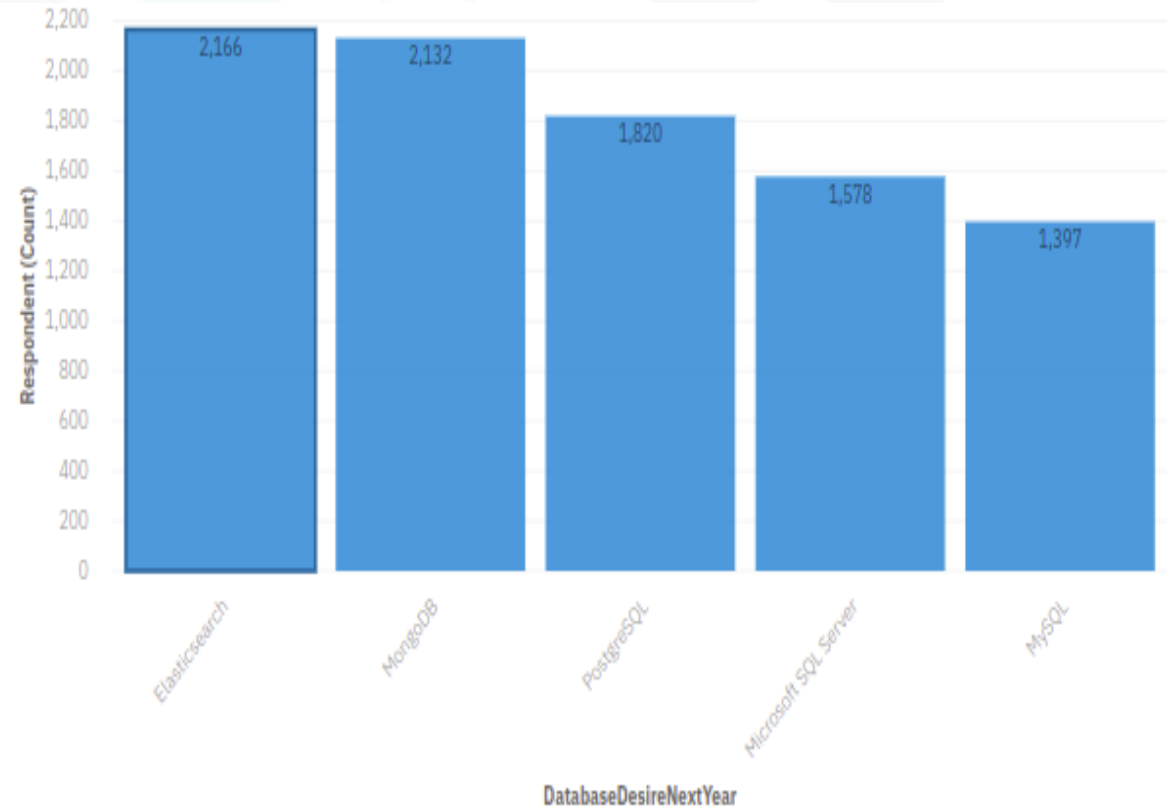
Implications

- Go is the new trending language

- Bash/Shell/Power Shell and HTML/CSS still indemand

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DATABASE TRENDS

Current Year
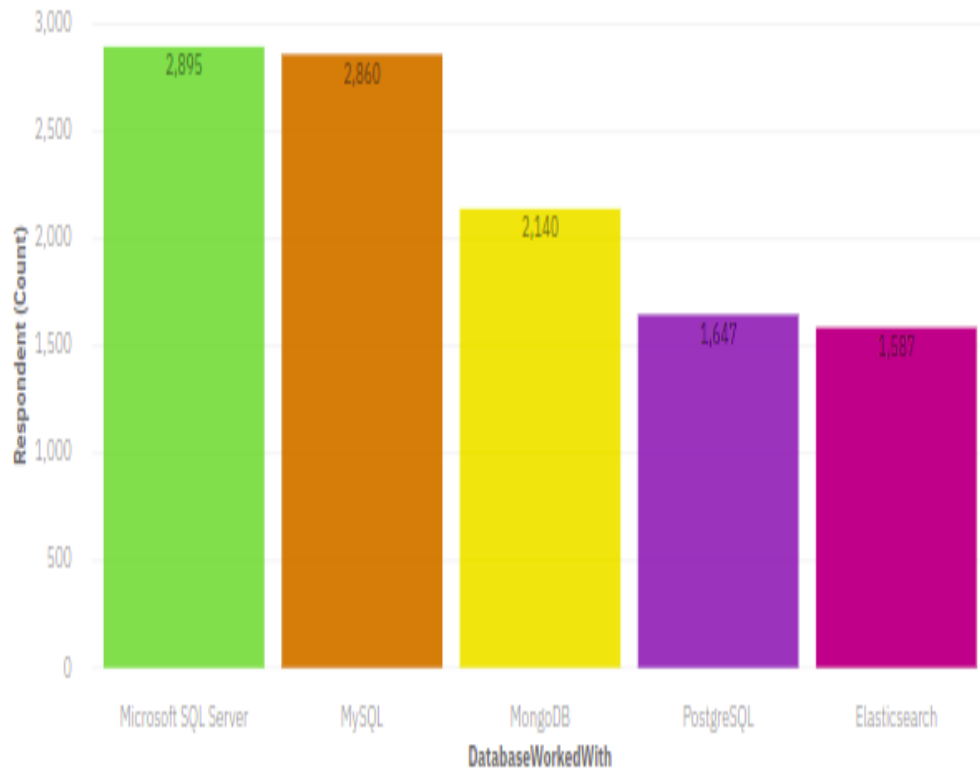
Next Year

DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Microsoft SQL server is the most popular database

- There are still a lot of companies using MySql

- MongoDB and postgreSQL are the most favorable NoSQL database

Implications

- Open-source databases like MySQL are still preferable

- Software development and Big Data technology still requires SQL

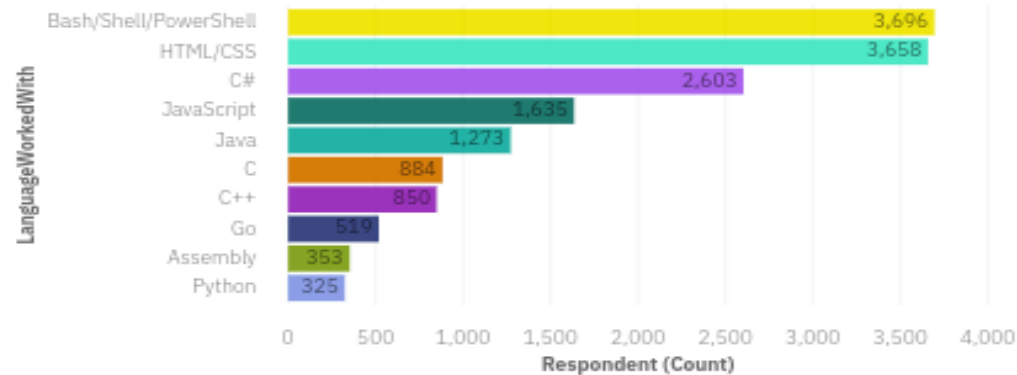- NoSQL databases will make an impact for relational databases
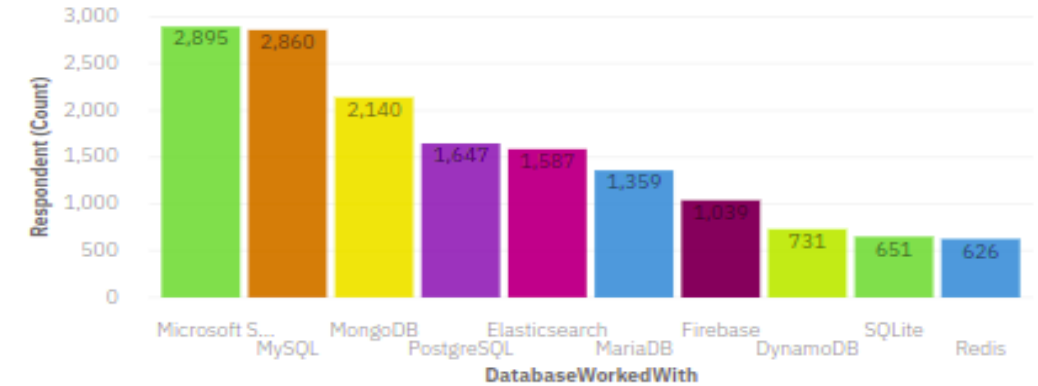
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DASHBOARD

https://eu-gb.dataplatform.cloud.ibm.com/dashboards/9cf03146-a4c5-46c9-add3-4ba07ba5609b/view/7e03a5247d8a32df47deeae407ca78572e33770ce7bb8b50d2807b490c617597f0601391c87c1f5a8c165132f7ec175b9f

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DASHBOARD TAB 1

Top 10 Language Worked With

Language	Respondent (Count)
Bash/Shell/PowerShell	3,696
HTML/CSS	3,658
C#	2,603
JavaScript	1,635
Java	1,273
C	884
C++	850
Go	519
Assembly	353
Python	325

Respondent (Count)

Top 10 Database Worked With

Database	Respondent (Count)
Microsoft S....	2,895
MySQL	2,860
MongoDB	2,140
PostgreSQL	1,647
Elasticsearch	1,587
MariaDB	1,359
Firebase	1,039
DynamoDB	731
SQLite	651
Redis	626

DatabaseWorkedWith

Platform Worked With

AWS
Docker
Android
Linux
Heroku
iOS
Arduino
MacOS
Google Cloud Platform
Windows
Microsoft Azure
WordPress
Kubernetes
IBM Cloud or Watson
Slack
Raspberry Pi

Top 10 Web Frame Worked With

Angular/Angular.js
ASP.NET
Django
jQuery
Flas...
Express
jQu...
AS...
React.js
Sp...

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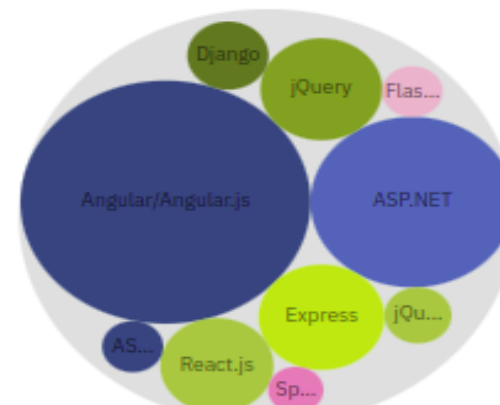
DASHBOARD TAB 2

Top 10 Language Desire Next Year

Language	Respondent (Count)
HTML/CSS	2,480
Bash/Shell/PowerShell	2,472
C#	2,356
JavaScript	1,581
Go	1,425
Java	1,001
C++	783
Python	716
C	578
Elixir	399

Top 10 Database Desire Next Year

Database	Respondent (Count)
MongoDB	2,166
PostgreSQL	2,132
Microsoft SQL Server	1,820
MySQL	1,578
Firebase	1,397
MariaDB	1,141
Cassandra	948
DynamoDB	850
Redis	830
	793
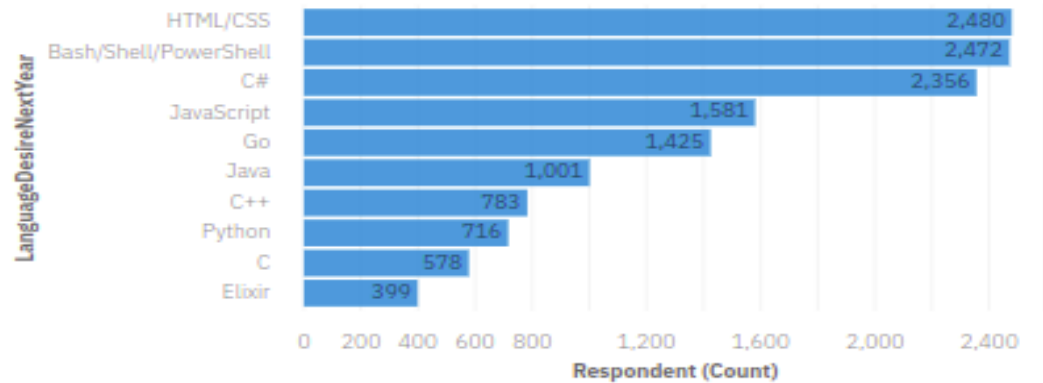
DatabaseDesireNextYear
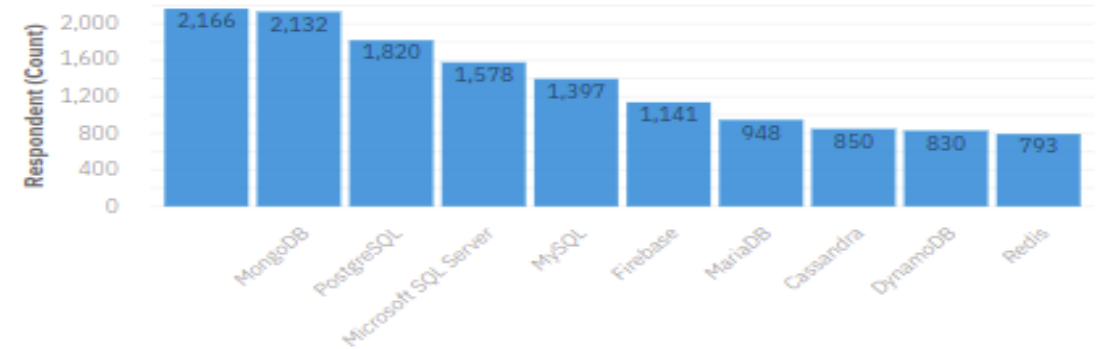
Platform Desire Next Year

Respondent (Cou...) 59 — 3,523

PlatformDesireN... 59 — 3,523

Docker
AWS
Android
Linux
Arduino
Windows
iOS
Google ...
Heroku
Micros...
Kuber...
Ma...
Slack
R...
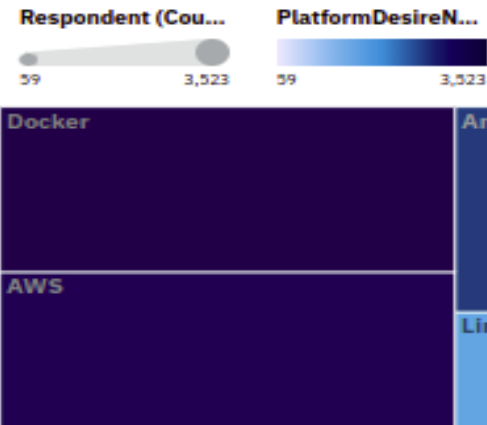
Top 10 Web Frame Desire Next Year
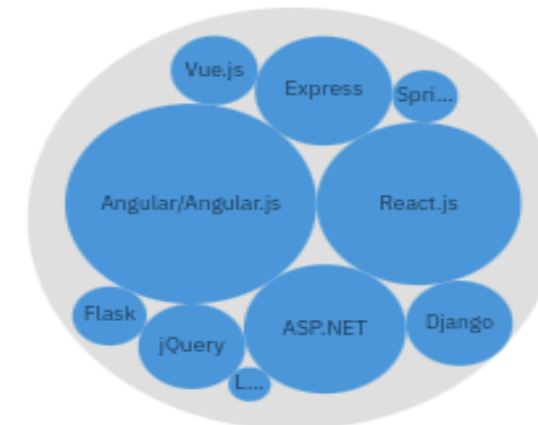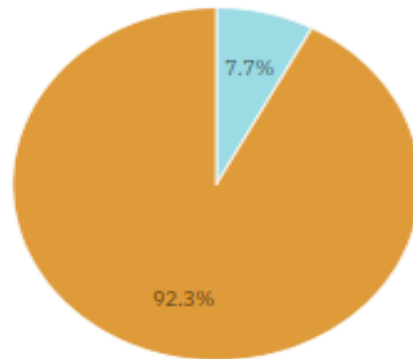
Vue.js
Express
Spri...
Angular/Angular.js
React.js
Flask
jQuery
ASP.NET
Django
L...

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DASHBOARD TAB 3

DISCUSSION

- Technology Usage Trend Now and Future

- Gender, Age and Education Discrimination in IT Industry

OVERALL FINDINGS & IMPLICATIONS

Findings

- Technology trends changes every year
- There are extreme gender and age discrimination
- Docker and AWS are the most popular platform

Implications

- Programmers should always follow the latest technology trends
- Further research and changes are required to encourage more women to enter the industry

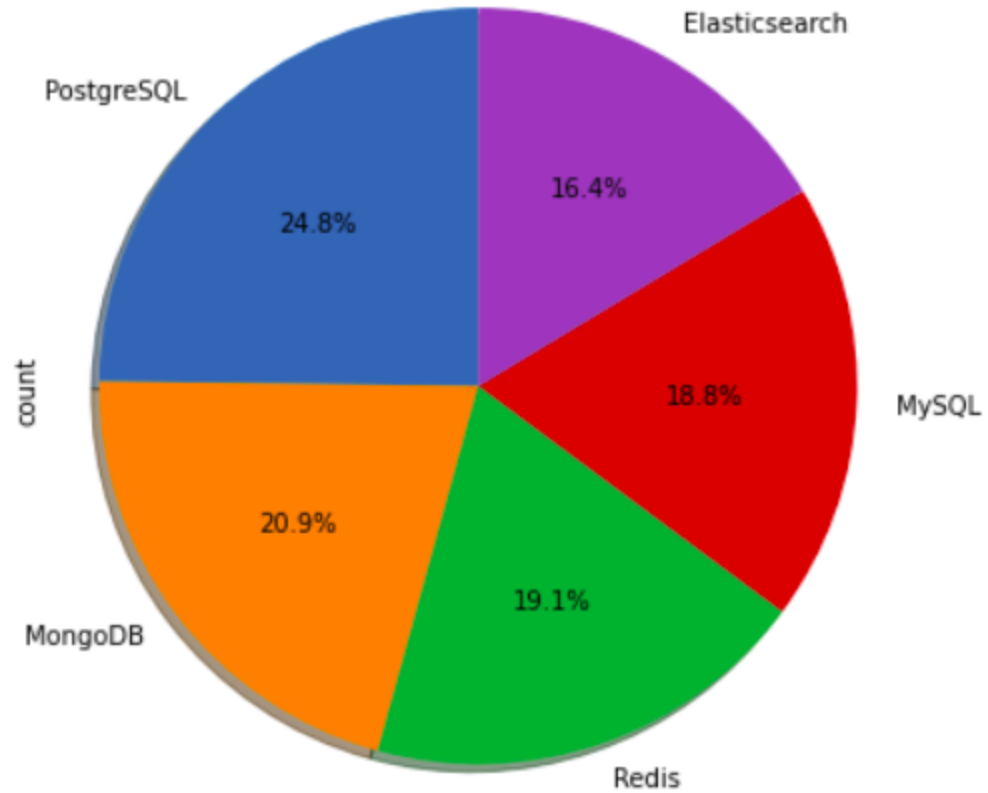IBM **Dev**eloper

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CONCLUSION

- Flexible platforms and databases can optimise systems, improve the performance and closely meet company needs

- Young generation is willing to join technology industry.

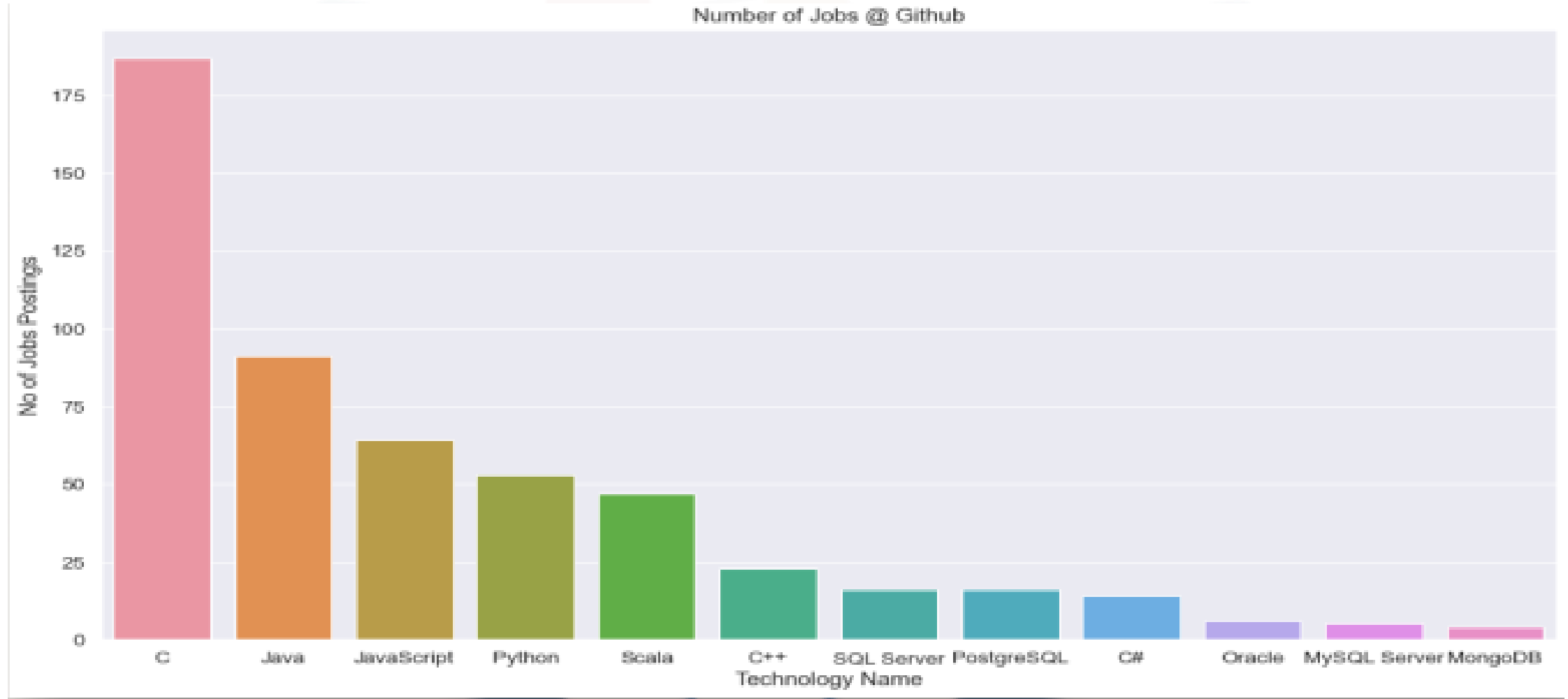- However, more promotions are needed to women and people from worldwide

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APPENDIX
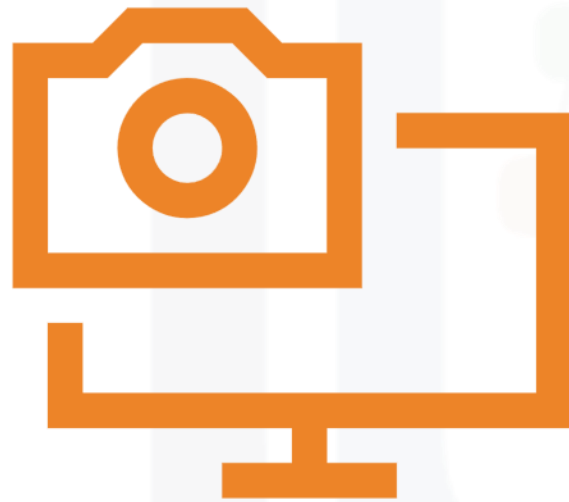
the top 5 databases that respondents wish to learn next year

JOB POSTINGS

Number of Jobs @ Github

POPULAR LANGUAGES

Job Salaries