Technology Trends & Analysis Presentation

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IBM Developer

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OUTLINE

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

EXECUTIVE SUMMARY

- Trends in programming languages and databases
- Demographics survey
- Technological gap in countries
- Gender gap in jobs

INTRODUCTION

About:

Analyzing the trends in software development

Purpose:

- Identify skill requirements for future

- What are the top programming languages in demand?

- What are the top database skills in demand?

- What are the popular IDEs

Audience: Human Resource and IT Head

METHODOLOGY

- **Data Collection Sources**
  - Stack Overflow Developer 2019 Survey
  - GitHub Job Postings
  - Programming Languages Annual Salary

- **Data Exploration**

- **Data Cleaning**

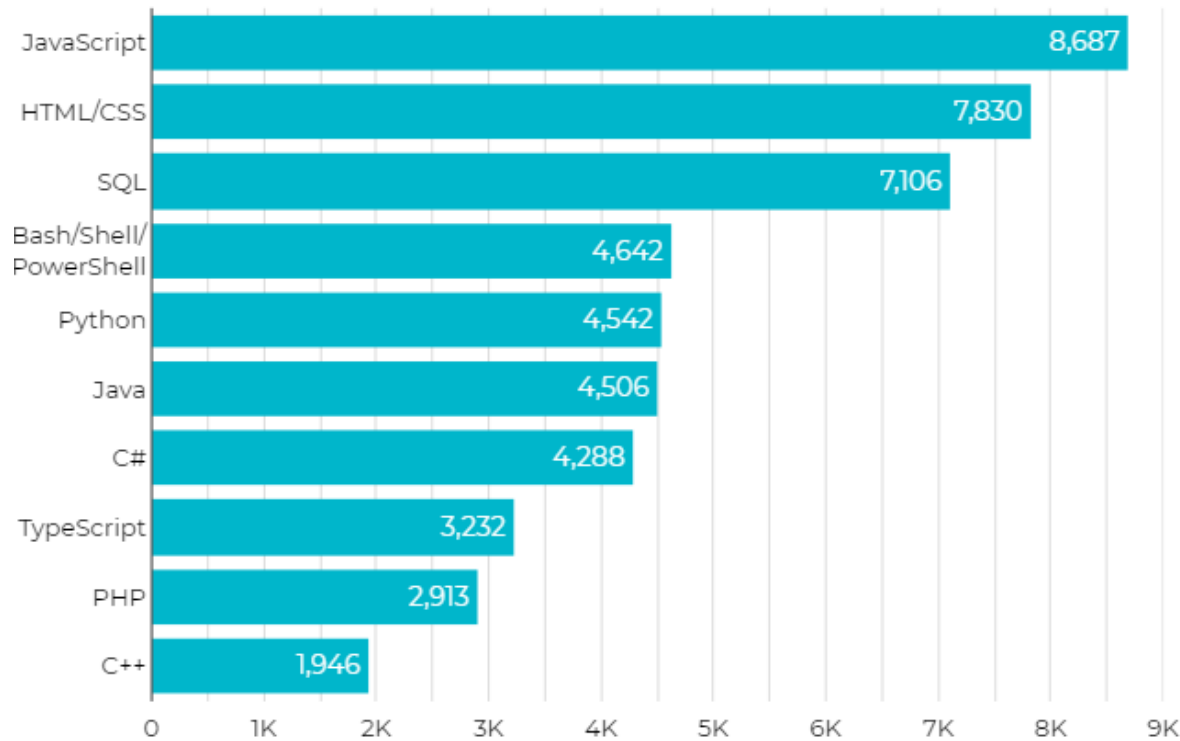- **Data Visualization**

- **Presentation**

RESULTS

	Respondent...	LanguageWorkedWith	LanguageDesireNextYear	DatabaseWorkedWith	DatabaseDesireNextYear
1.	25142	R			
2.	25142	Python			
3.	25142	C	C		
4.	25142	Go	Python		
5.	25142	C++	C++		
6.	25142	HTML/CSS	R		
7.	25142	PHP			
8.	25142	Bash/Shell/PowerShell	Bash/Shell/PowerShell	PostgreSQL	PostgreSQL
9.	25141	C#	F#		Microsoft SQL Server
10.	25141	JavaScript			
11.	25141	TypeScript			
12.	25141	HTML/CSS			Redis
13.	25141	Java			
14.	25141	Python			
15.	25141	SQL			

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PROGRAMMING LANGUAGE TRENDS

Top 10 LanguageWorkedWith

Language	Value
JavaScript	8,687
HTML/CSS	7,830
SQL	7,106
Bash/Shell/PowerShell	4,642
Python	4,542
Java	4,506
C#	4,288
TypeScript	3,232
PHP	2,913
C++	1,946

Top 10 LanguageDesireNextYear

Language	Value
JavaScript	6,630
HTML/CSS	5,328
Python	5,239
SQL	5,012
TypeScript	4,088
C#	3,591
Bash/Shell/PowerSh...	3,097
Java	2,953
Go	2,759
Kotlin	1,890

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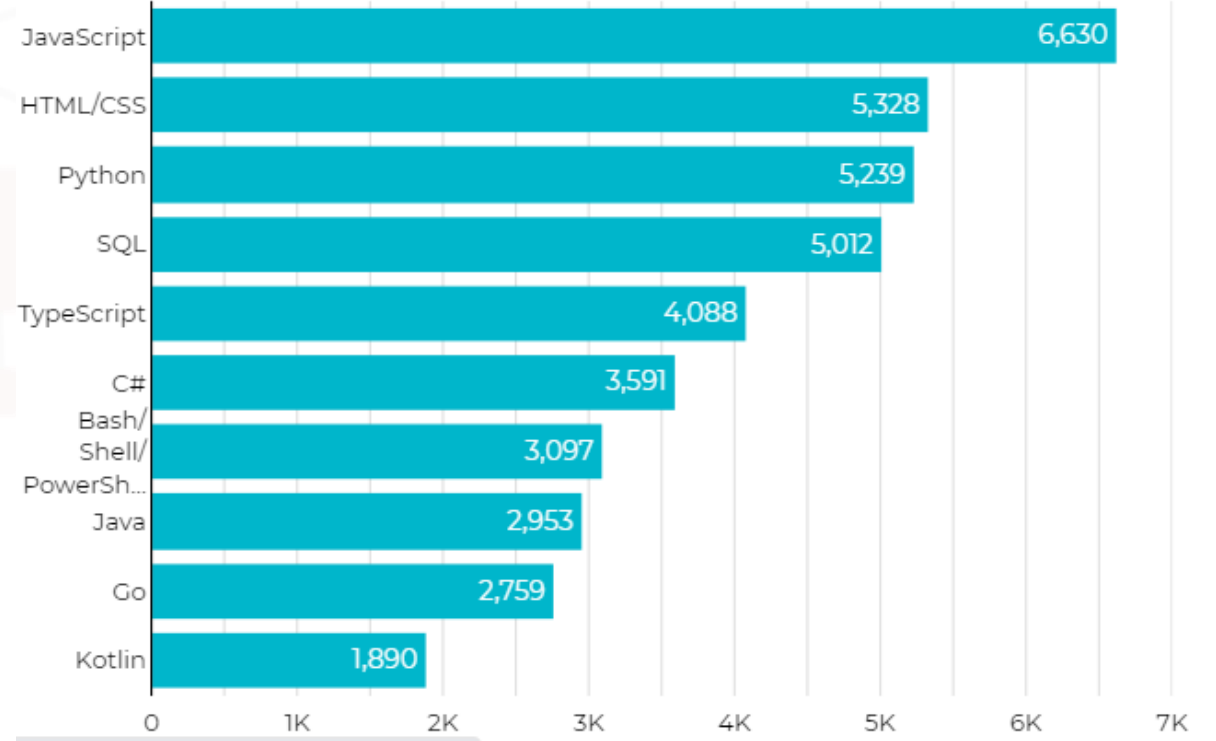
PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- JavaScript, HTML/CSS, SQL are top 3 this year

- Python and Typescript becoming popular next year

- PowerShell edged out in next year

Implications

- Web development are still in high demand

- Big Data technology in companies still requires SQL

- With AI and ML in rising demand, Python is best choice

DATABASE TRENDS

Top 10 DatabaseWorkedWith

- MySQL: 5,469
- Microsof...: 4,110
- PostgreS...: 4,097
- SQLite: 3,248
- MongoDB: 3,016
- Redis: 2,508
- Elasticse...: 1,954
- Oracle: 1,744
- MariaDB: 1,709
- Firebase: 1,314

Top 10 DatabaseDesireNextYear

- PostgreS...: 4,328
- MongoDB: 3,649
- Redis: 3,331
- MySQL: 3,281
- Elasticse...: 2,856
- Microsof...: 2,706
- SQLite: 2,437
- Firebase: 1,650
- MariaDB: 1,385
- Dynamo...: 1,044

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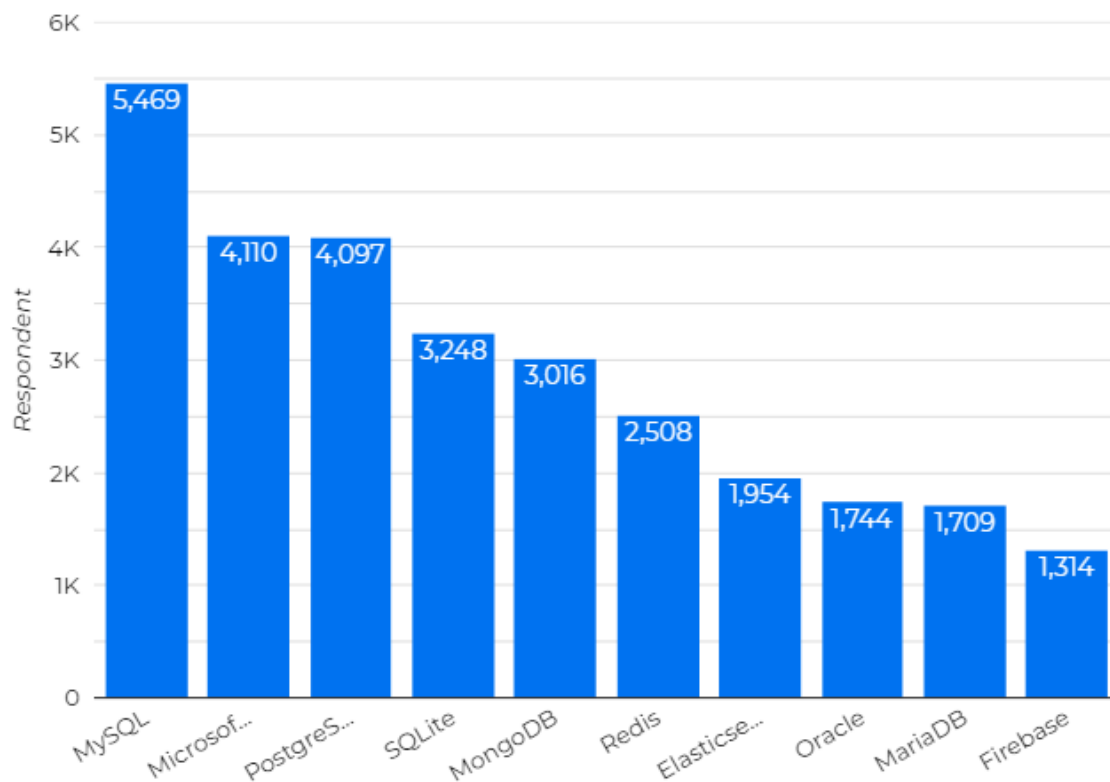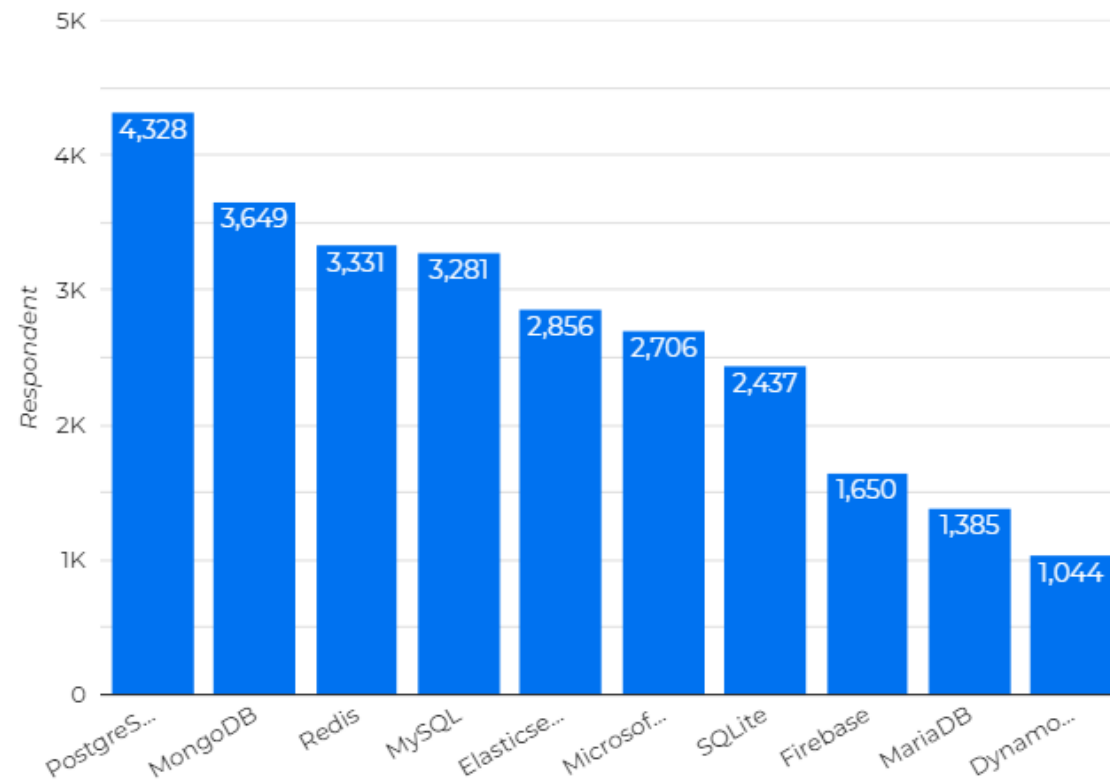
DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL most popular

- Behind is Microsoft SQL

- MongoDB and Redis are upcoming favorites

- New kid on the block: Elasticsearch

Implications

- Open source databases are still preferable in companies

- NoSQL databases will make an impact for storing non relational data

- Redis supports abstract data types

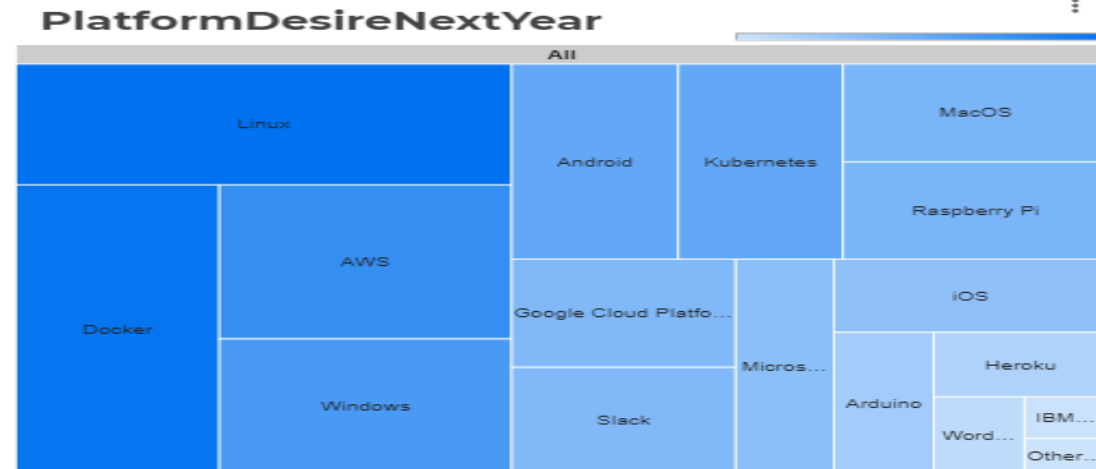- Pre tuned search to website, app, or ecommerce store

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DASHBOARD

https://datastudio.google.com/reporting/a55d5713-edcb-4e2a-8a62-c17553a7ea05

DASHBOARD TAB 1

DASHBOARD TAB 2

Top 10 LanguageDesireNextYear

Top 10 DatabaseDesireNextYear
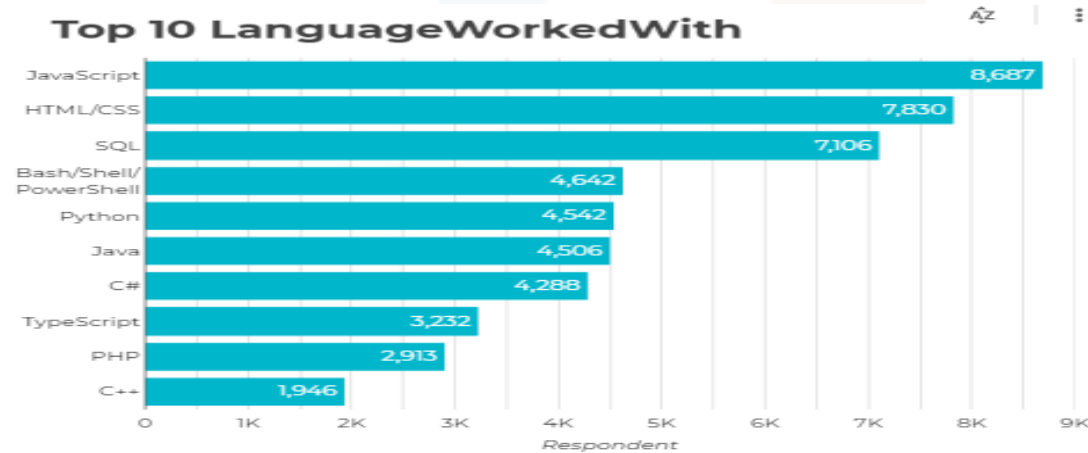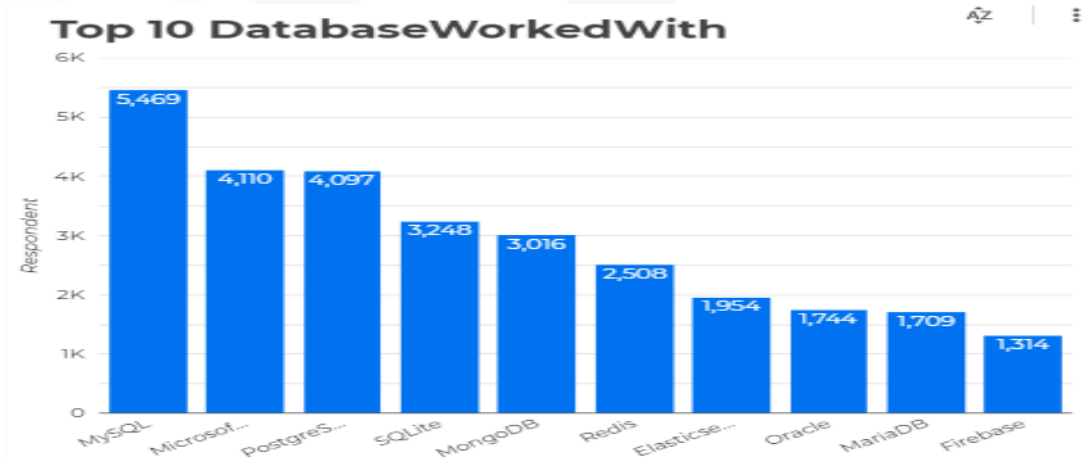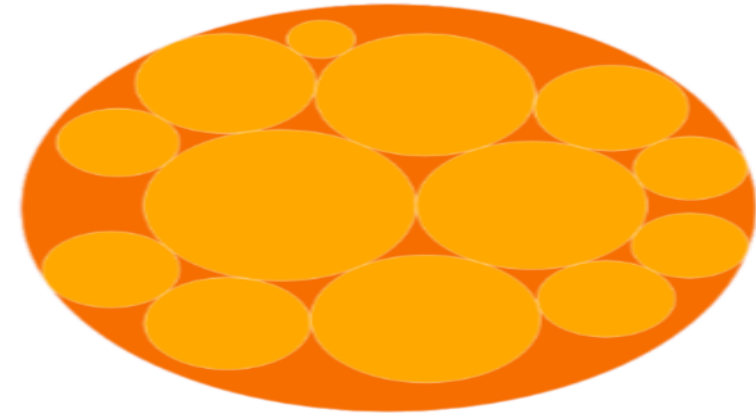
PlatformDesireNextYear
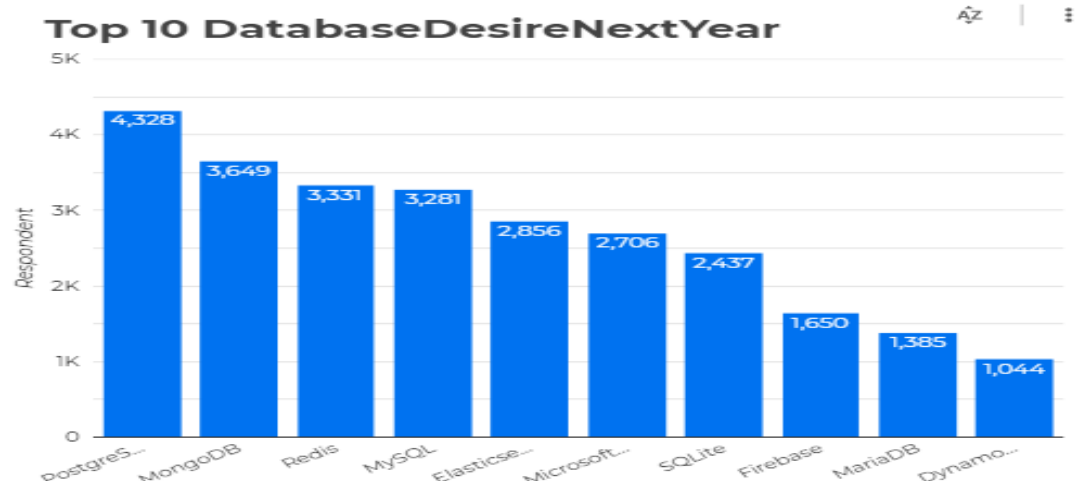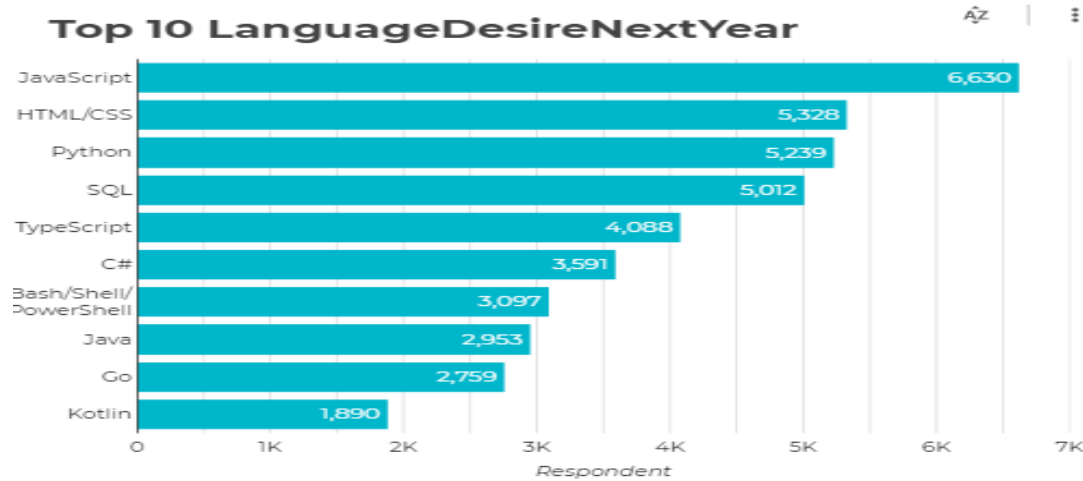
Top 10 WebFrameDesireNextYear
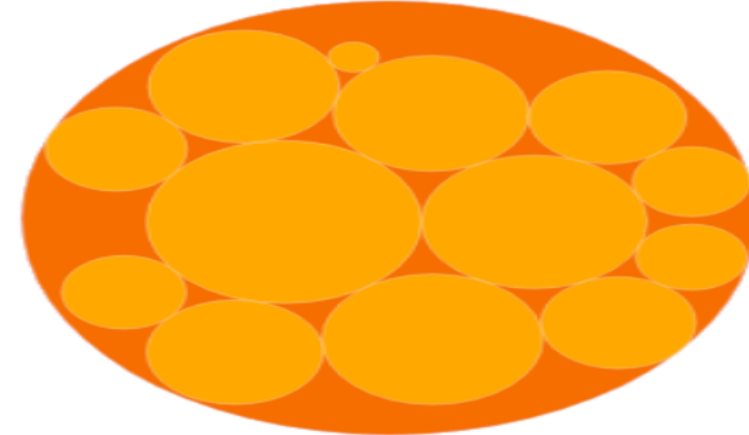
DASHBOARD TAB 3
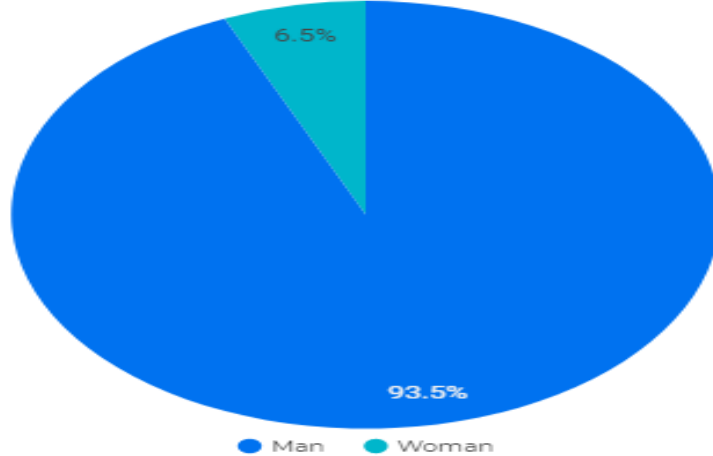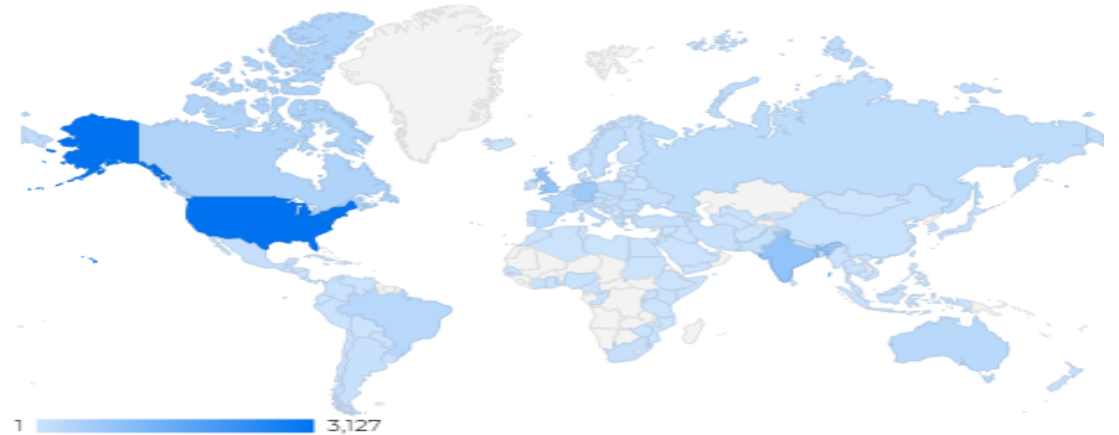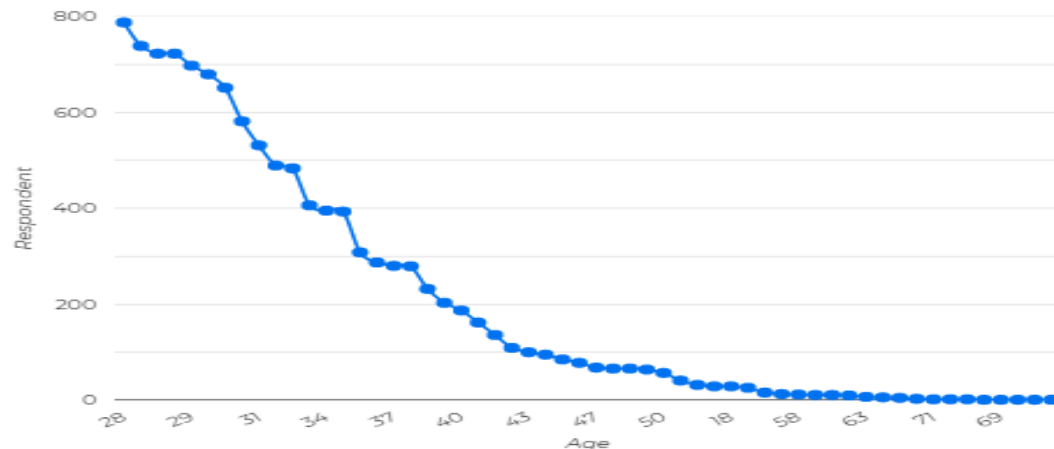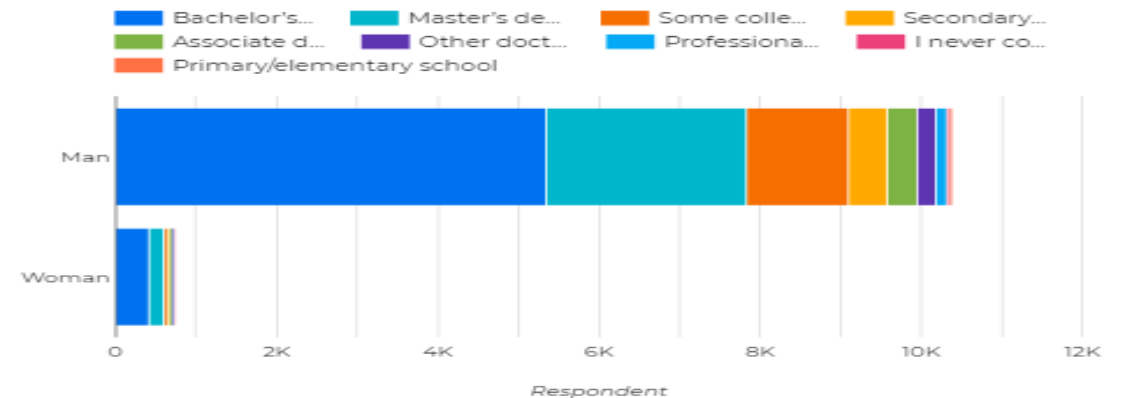
DISCUSSION

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

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OVERALL FINDINGS & IMPLICATIONS

Findings

- Fast changing technology every year

- Concentration on several countries like USA and India

- Gender gap in technology jobs

- Platforms like Docker and AWS are growing
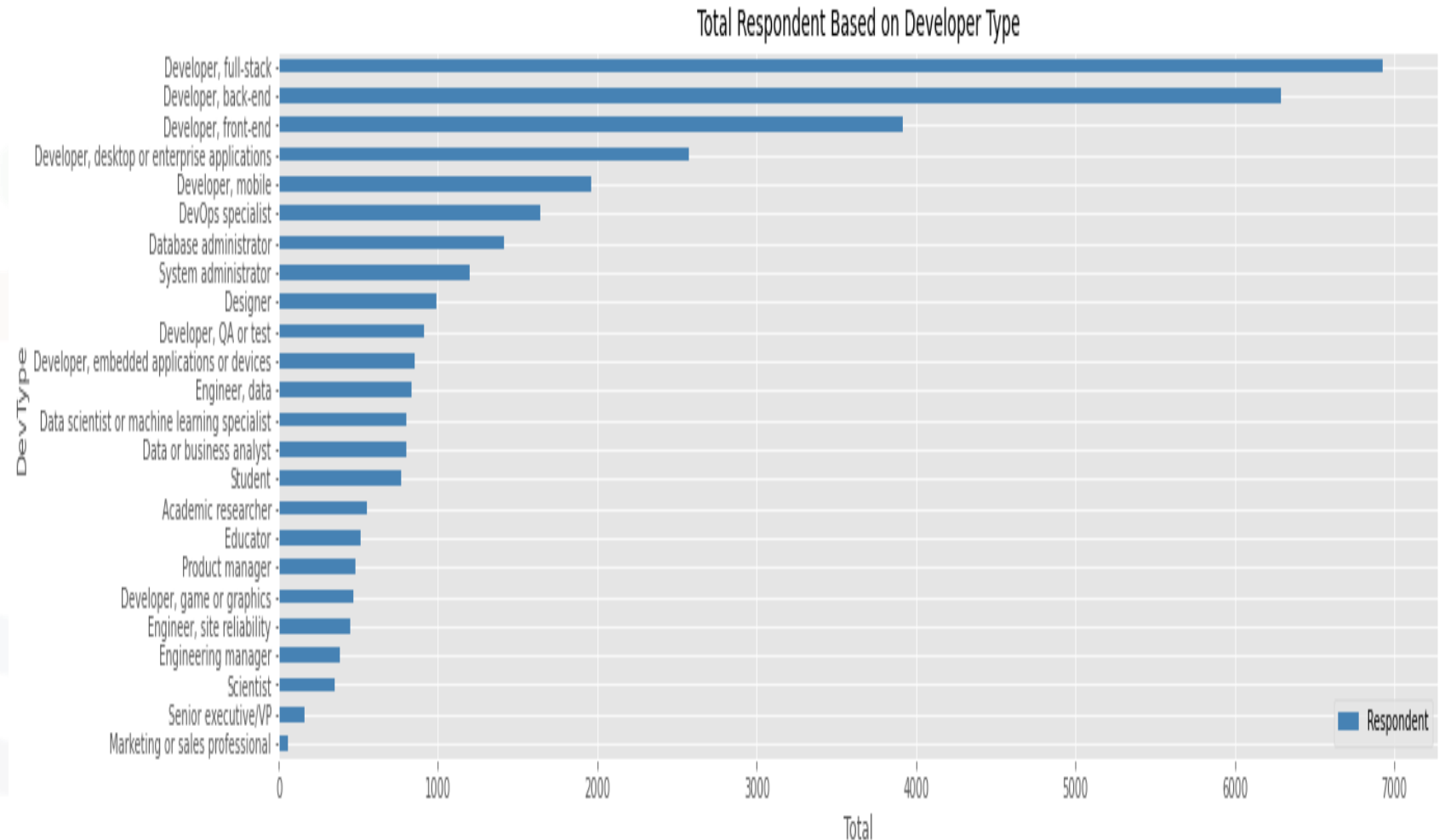
Implications

- Companies need to be flexible and adjust to rapid changes

- Need to spread technology out to lagging countries

- Impact of job hiring's

- Shift to faster app deployments and cloud services in future
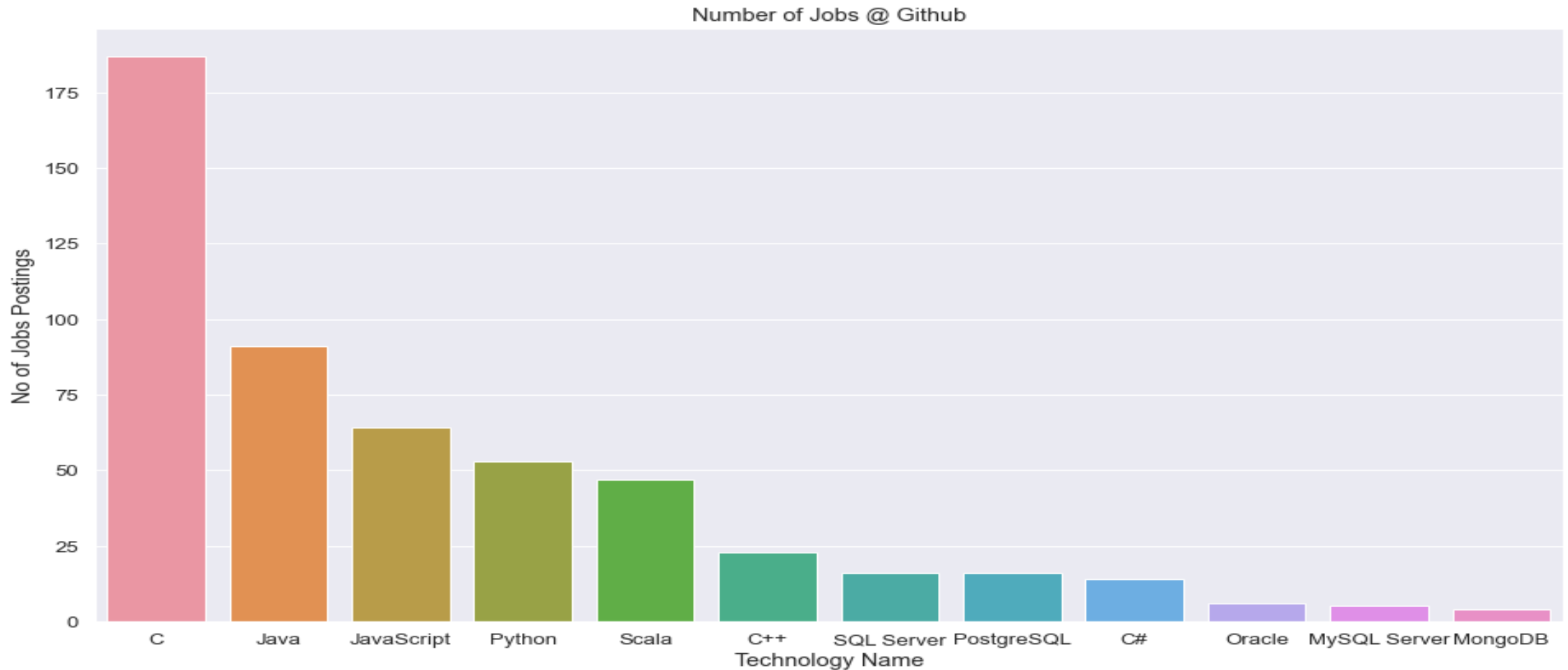
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CONCLUSION

- Technology Trends for current and next year

- Programming Languages, Database and Platform overview

- Demographics overview

- Actions to be taken

- In future, incorporate Machine Learning to predict trends and salaries

APPENDIX

Total Respondent Based on Developer Type

GITHUB JOB POSTINGS

Number of Jobs @ Github

POPULAR LANGUAGES