



# Technology Trends & Analysis

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# OUTLINE

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

# EXECUTIVE SUMMARY

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- Presentation to convey the analysis report that investigates emerging skills and technologies in IT industry.
- Aim of the analysis is to identify the emerging trends in the IT industry pertaining to -
  - Languages
  - Databases
  - Software Platforms
  - Web Frames
- Presentation communicates results which may help industry professionals and enthusiasts in their careers.

# INTRODUCTION

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- Dynamic trend of different tools / software's available for the Professionals in IT industry.
- Outcomes to assist IT Professionals and Recruiters to get a glance on the future expectations.
- Professionals can upskill based on different emerging trends.
- The Study gives an insight on -
  - Top Programming Languages now and in coming year.
  - Top Databases now and in coming year.
  - Top Skills development and training in future.

# METHODOLOGY

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- Data Sources
  - GitHub job postings
  - Stack overflow Survey
  - IBM website
- Data Exploration and Wrangling
  - Find and remove duplicate values
  - Find and remove missing values
- Data Normalizing
  - Handling Outliers
  - Correlation
- Data Visualization
  - Used Python libraries (Matplotlib and Seaborn)
  - Used Cognos Dashboard Embedded

# RESULTS

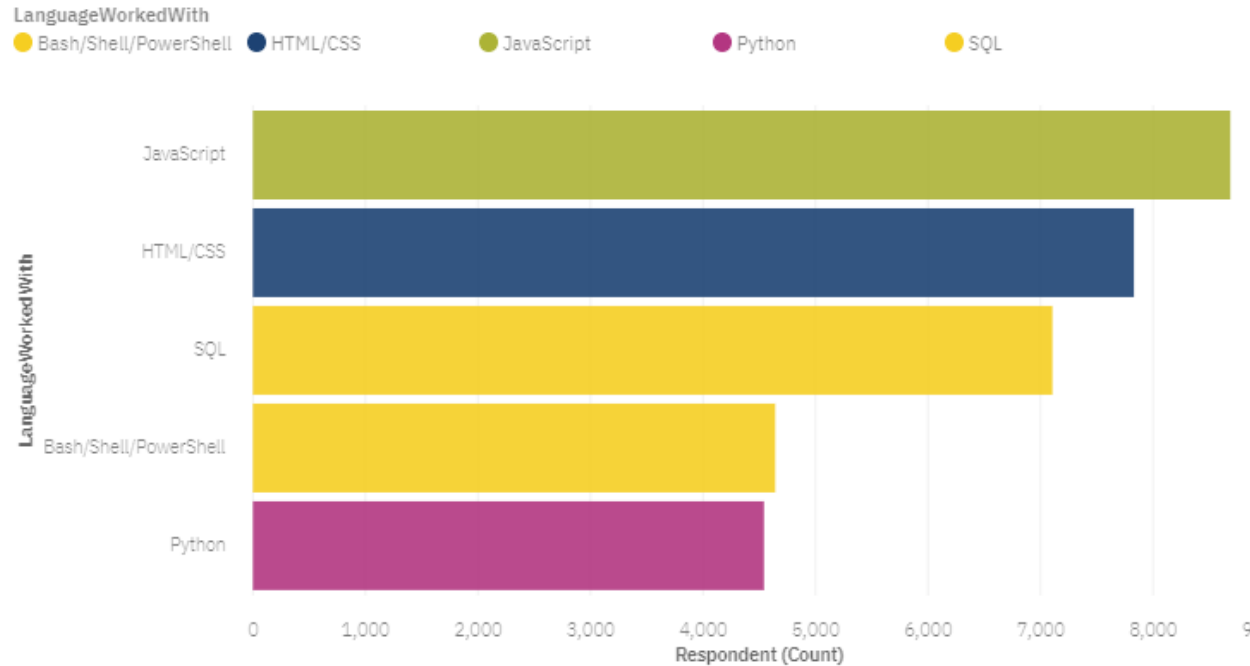
↑↓	Respondent	LanguageWorkedWith	LanguageD...eNextYear	DatabaseWorkedWith	DatabaseD...eNextYear	PlatformWorkedWith	PlatformD...eNextYear	WebFrameWorkedWith	WebFrameD...NextYe
	↑↓	↑↓	↑↓	↑↓	↑↓	↑↓	↑↓	↑↓	↑↓
	Null	Null	Null	Null	Null	Null	Null	Null	Null
4		C	C	MySQL	MySQL	Linux	Linux	Null	Null
4		C++	C#	SQLite	SQLite	Windows	Windows	Null	Null
4		C#	JavaScript	Null	Null	Null	Null	Null	Null
4		Python	SQL	Null	Null	Null	Null	Null	Null
4		SQL	Null	Null	Null	Null	Null	Null	Null
9		Bash/Shell/PowerShell	Bash/Shell/PowerShell	DynamoDB	PostgreSQL	AWS	AWS	Express	Express
9		C#	C	PostgreSQL	Redis	Docker	Docker	Ruby on Rails	Ruby on Rails
9		HTML/CSS	HTML/CSS	SQLite	SQLite	Heroku	Heroku	Other(s):	Other(s):

# PROGRAMMING LANGUAGE TRENDS

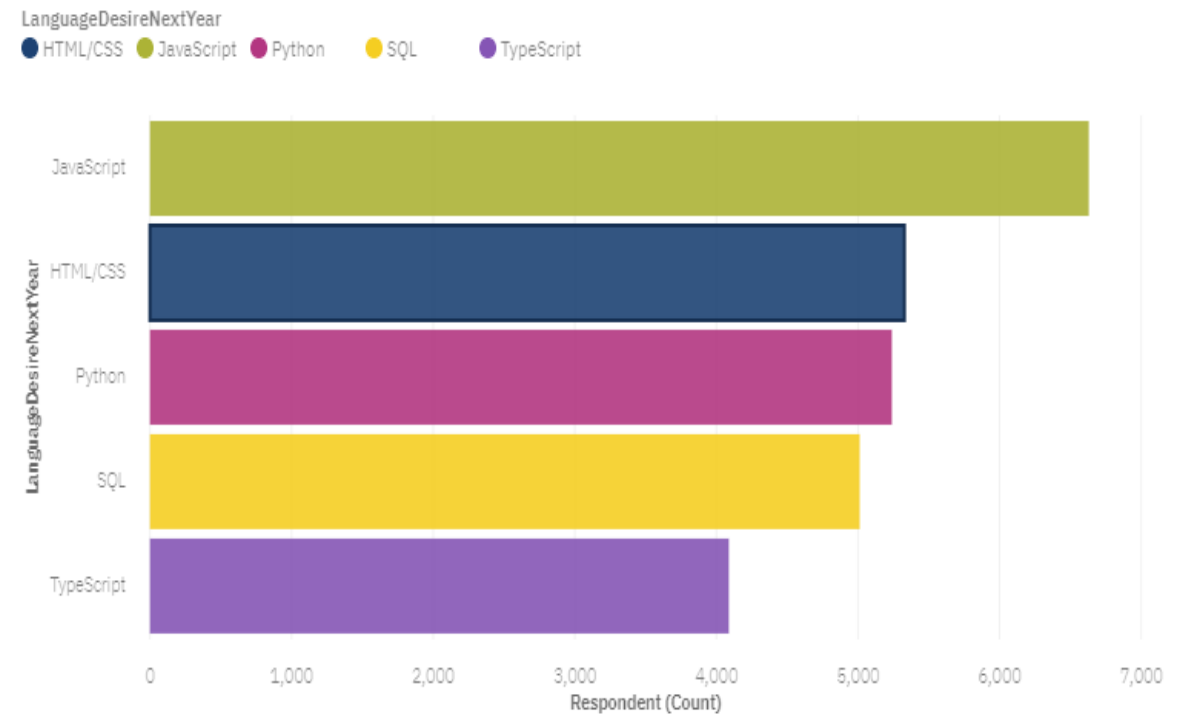
Current Year

Next Year

Top 5 Programming languages



Top 5 Desired Programming Languages



# PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- JavaScript and HTML/CSS are the most in demand programming languages.
- Increase in interest to learn Python amongst Developers.
- PowerShell/Bash are not priorities in coming year.
- Emerging language TypeScript.

## Implications

- Java and HTML skill should be given priority to the professionals.
- Training and skill development in Python can help organizations to keep up with market trends.
- Knowledge on TypeScript will be added advantage on JavaScript.



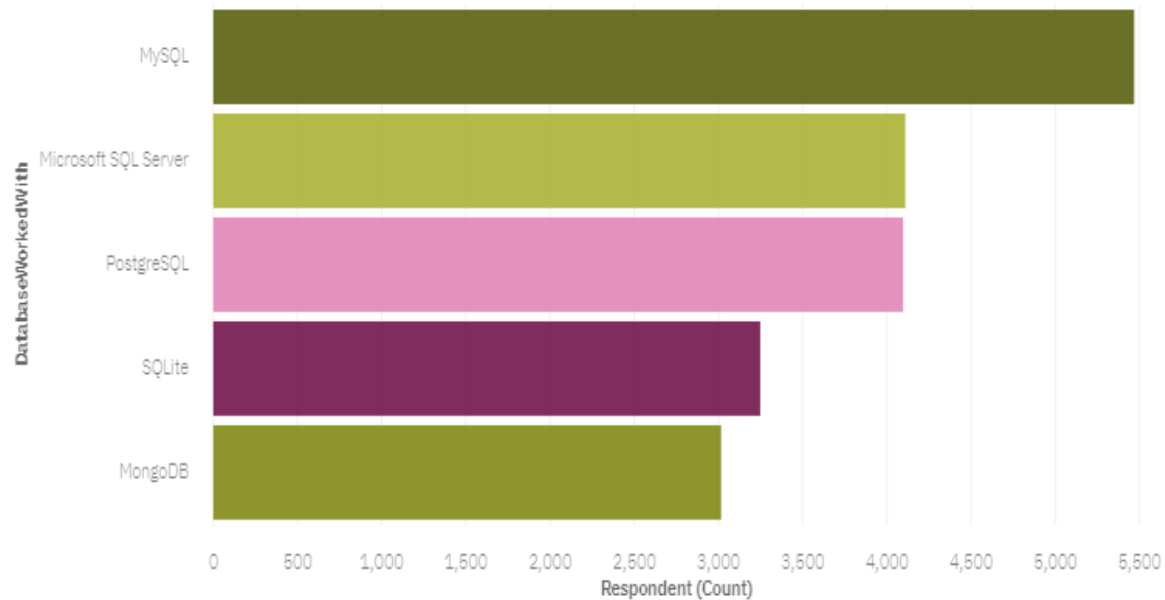
# DATABASE TRENDS

## Current Year

Top 5 Databases

DatabaseWorkedWith

● Microsoft SQL Server ● MongoDB ● MySQL ● PostgreSQL ● SQLite

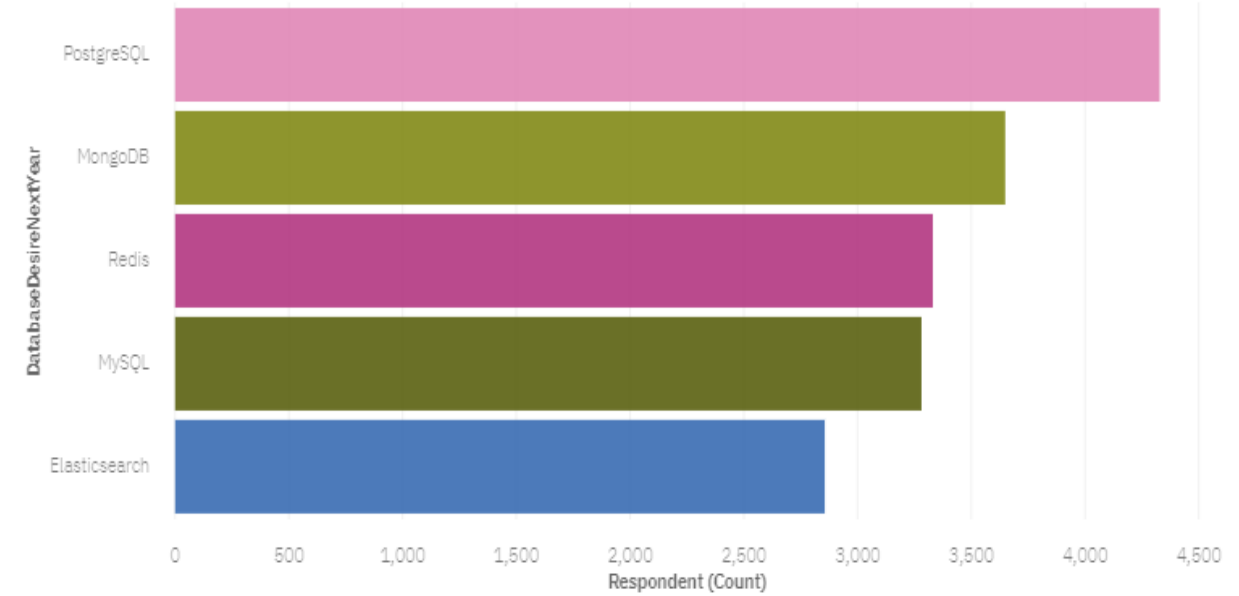


## Next Year

Top 5 Desired Databases

DatabaseDesireNextYear

● Elasticsearch ● MongoDB ● MySQL ● PostgreSQL ● Redis



# DATABASE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- MySQL and Microsoft SQL Server are the most in demand Databases.
- PostgreSQL is most desired Database amongst others for Developers.
- MongoDB is most emerging Database for the coming year.
- NoSQL Databases on the rise for coming year.

## Implications

- Open-source Databases are more preferred by the companies.
- NoSQL databases will make an impact for storing non-relational data.

# DASHBOARD

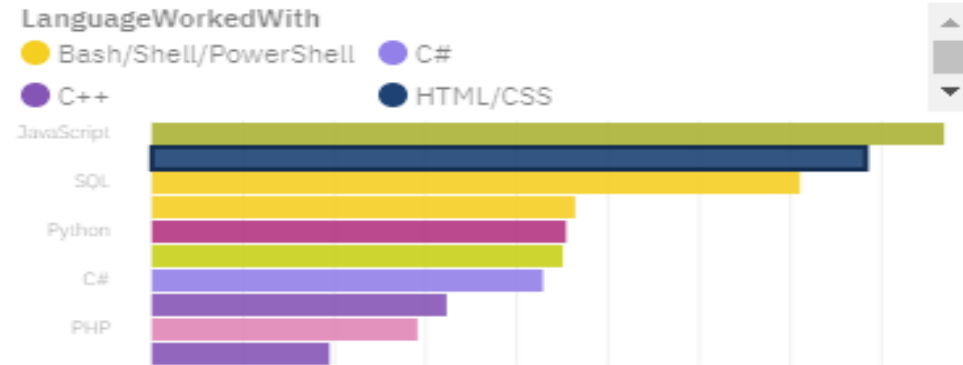
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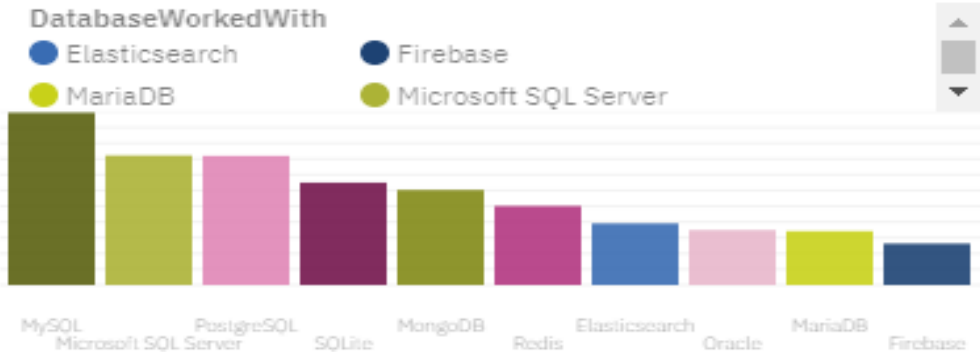
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# DASHBOARD TAB 1

## Top 10 LanguageWorkedWith



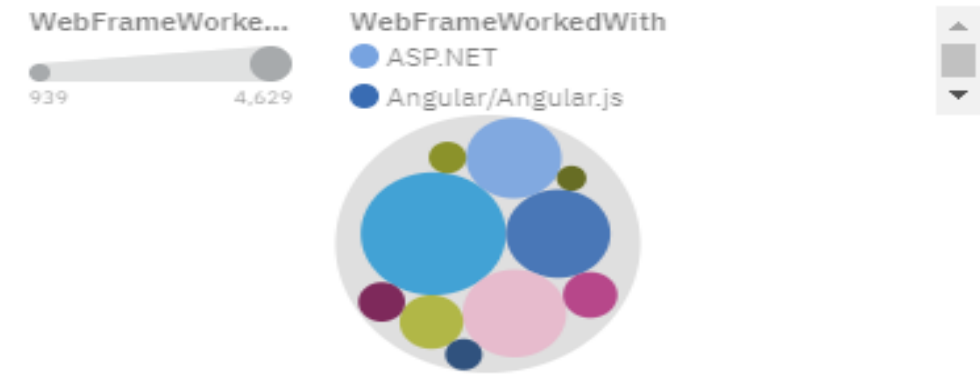
## Top 10 DatabaseWorkedWith



## PlatformWorkedWith

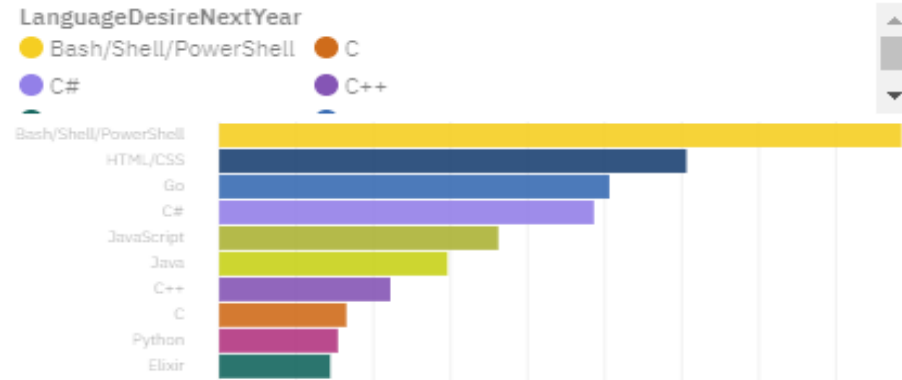


## Top 10 WebFrameWorkedWith

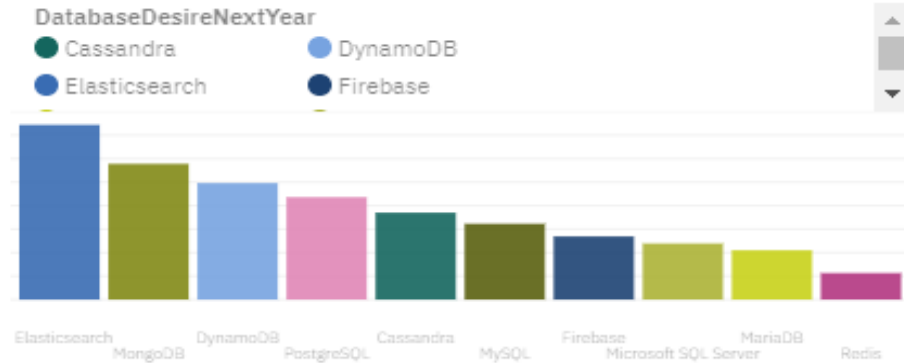


# DASHBOARD TAB 2

## Top 10 Language Desire Next Year



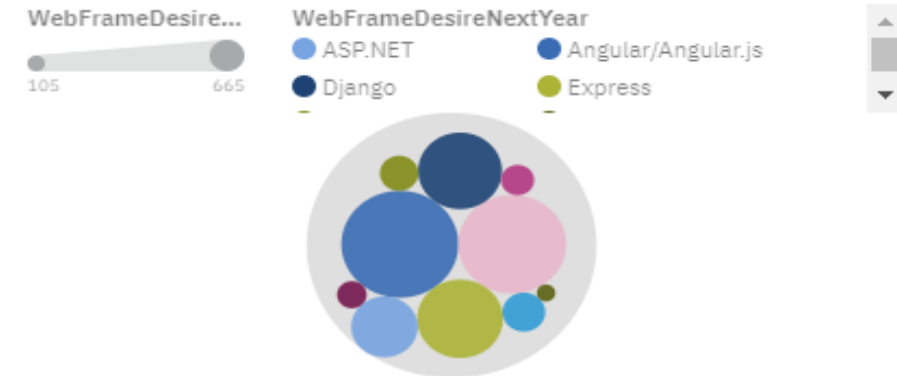
## Top 10 Database Desire Next Year



## Platform Desire Next Year



## Top 10 WebFrame Desire Next Year



# DASHBOARD TAB 3

### Respondent classified by Gender

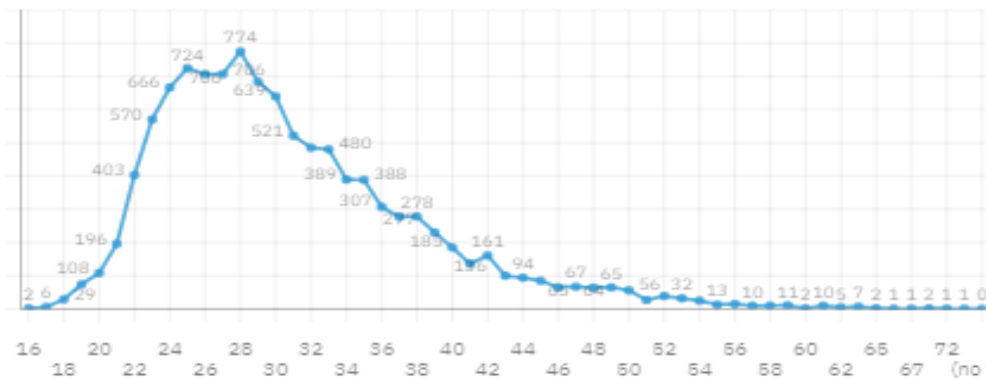
Gender  
● Woman ● Man



### Respondent Count for Countries

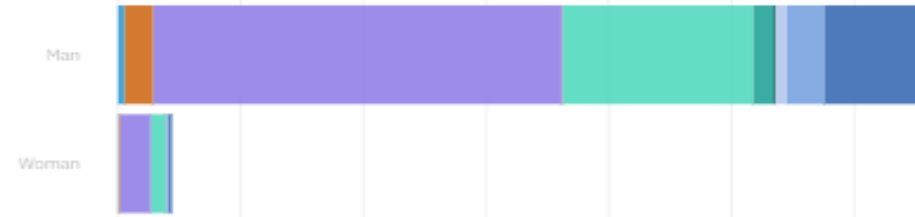


### Respondent Count by Age



### Respondent Count by Gender, classified by Formal Education Level

EdLevel  
● (no value) ● Associate degree  
● Bachelor's degree (BA, BS, B.E... ● I never completed any formal ...



# DISCUSSION

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- Analysis shows Python as most sought-after language in the future, so as PostgreSQL and MongoDB for Databases.
- Trend shows growth in Cloud based applications Docker and Kubernetes.
- Demographics shows need of employing more Women in the IT industry,
- Most respondents are in 20's or early 30's and with full fledged degrees which calls for diversity and to inculcate inclusiveness.

# OVERALL FINDINGS & IMPLICATIONS

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## Findings

- Emerging Technologies
- Increase in number of professional's interest to learn Python, PostgreSQL, MongoDB.
- Emerging Cloud Technologies.
- Demographic diversification

## Implications

- Companies need to adapt to trend and upskill professionals.
- Training professionals in Python, PostgreSQL, MongoDB, and Cloud can help the company keep up with market trends.
- Gain knowledge on Cloud applications
- Need of spreading Technologies to other Countries of World.



# CONCLUSION

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- Need of upskill of professionals as per emerging trends and market needs.
- Gender balance in the Industry can generate considerable opportunities for Women.
- Inclusiveness of Professionals from all age group and different educational background.
- Technological wide-spread could generate more job opportunities around the globe.

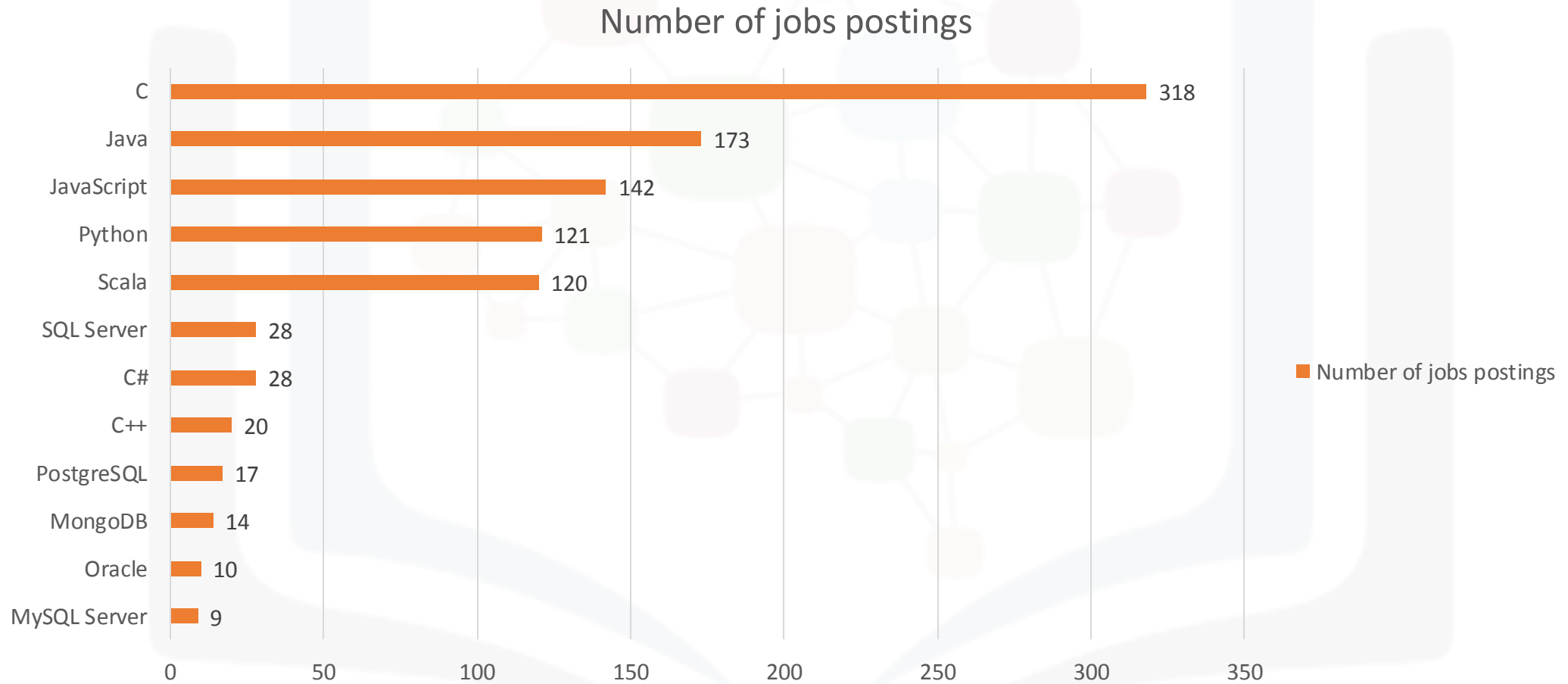
# APPENDIX

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- Some interesting findings from the GitHub job posting and Popular languages data worth sharing are seen below.

# GITHUB JOB POSTINGS



# POPULAR LANGUAGES

