The Analysis of the Trends in Programming Technologies

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EXECUTIVE SUMMARY

- Programming Technologies are evolving.
- The trends in the following areas are investigated:
  - Languages
  - Databases
  - Platforms
  - Web Frames
- Young developers and students always seek recommendations in this field.
- It would be helpful to recommend the technologies to the young developers based on the aforementioned trends.

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INTRODUCTION

- There are many programming technologies available in the market.
- Many new technologies are also emerging every year.
- Therefore it is very crucial for a developer, programmer or IT consultant to update itself.
- In order to keep pace with changing technologies and remain competitive, the organization regularly analyses data to help identify future skill requirements.

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METHODOLOGY

- The main source of this analysis is the survey by Stack Overflow.
- It is a popular website for developers, conducted an online survey of software professionals across the world. The data was later open sourced by Stack Overflow.
- Moreover, I collected the job data from GitHub jobs API.
- I also collected some information using webscraping

RESULTS

- Among the programming languages JavaScript and HTML/CSS have the strongest position and they will keep being popular in future.

- However, Python is growing faster than any other languages and considering the trend we can predict even higher position for this language in future.

- The changes are faster among databases, with PostgreSQL and MongoDB getting popular to replace MySQL and Microsoft SQL during the upcoming years.

- Furthermore, the platforms and web frames are also evolving sharply, with Linux replacing the Microsoft and React.js going to eliminate ASP.NET and JQuery from the market.

PROGRAMMING LANGUAGE TRENDS

Current Year
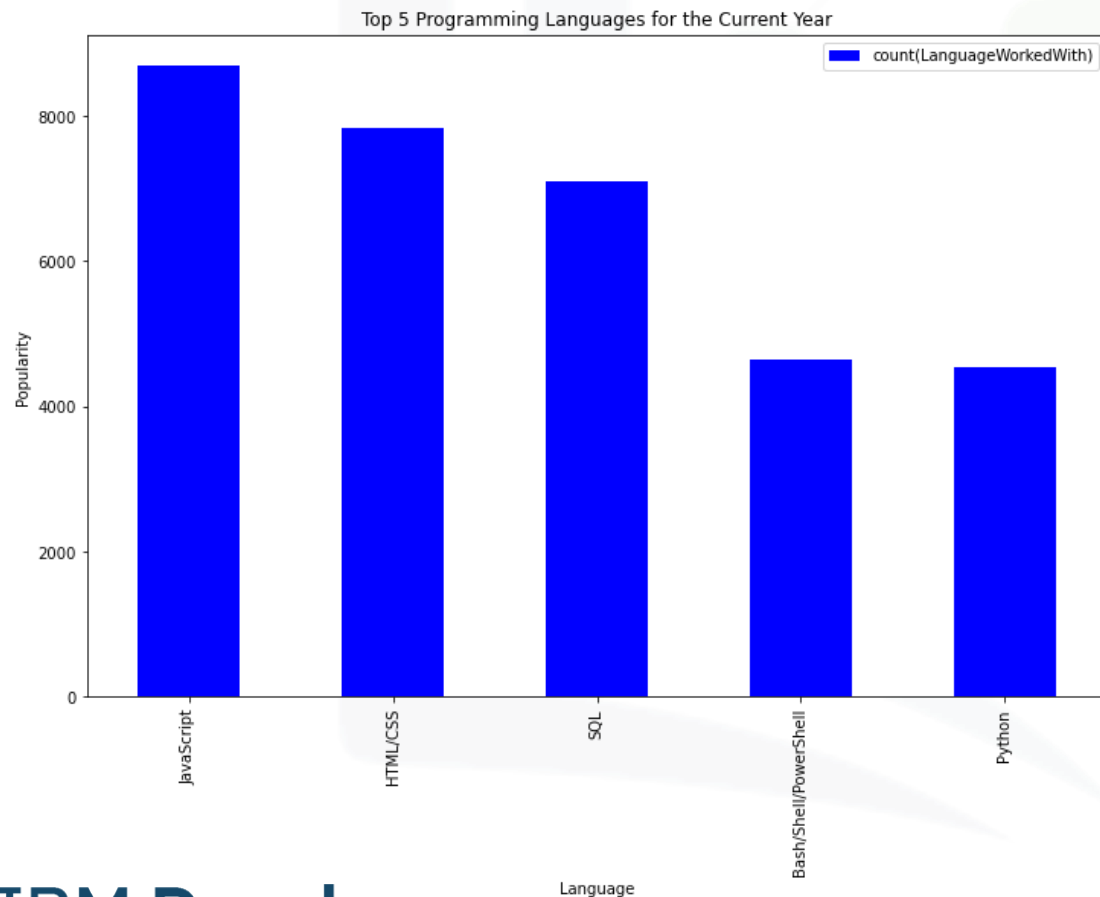
Next Year
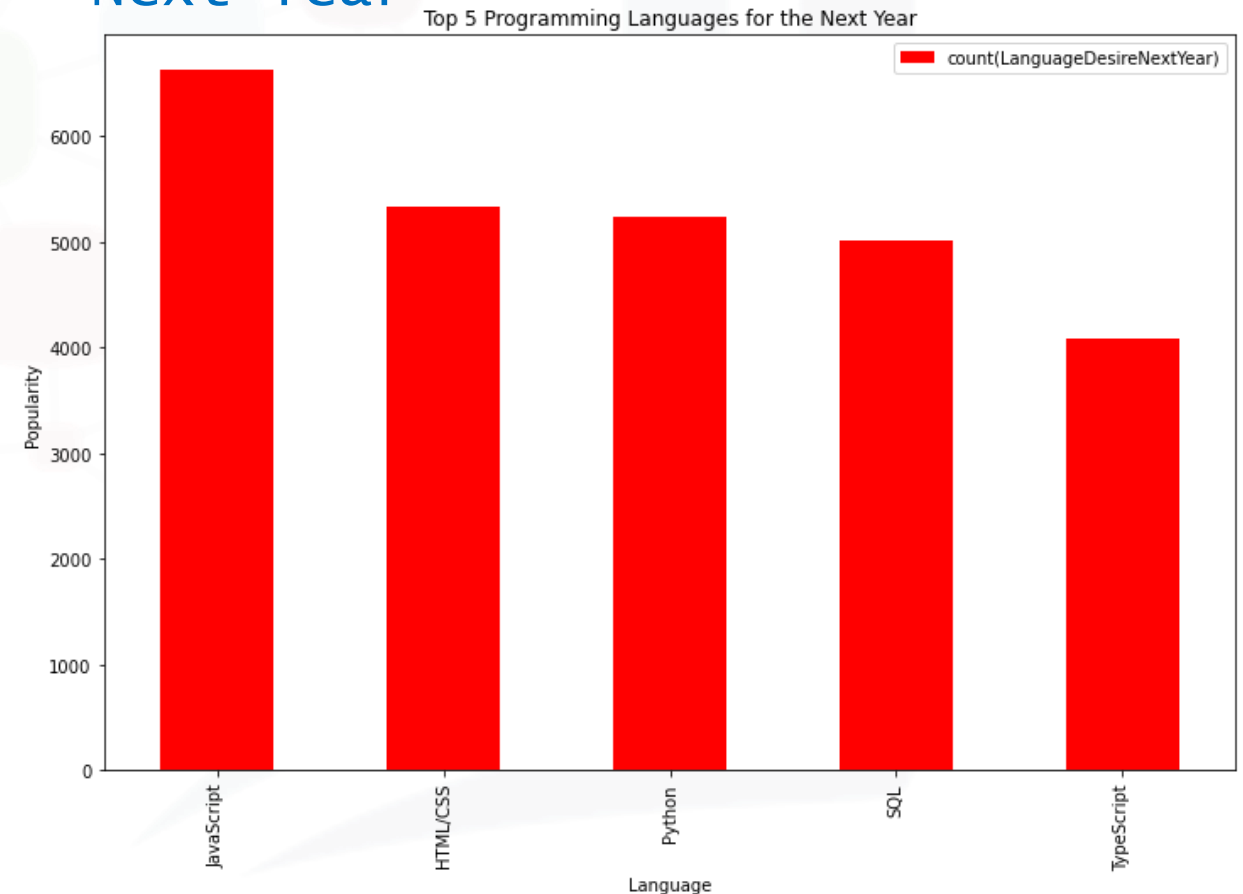
PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- JavaScript, HTML/CSS, SQL and Python are among top 5 in both charts

- Python improved from rank 5th to rank 3rd

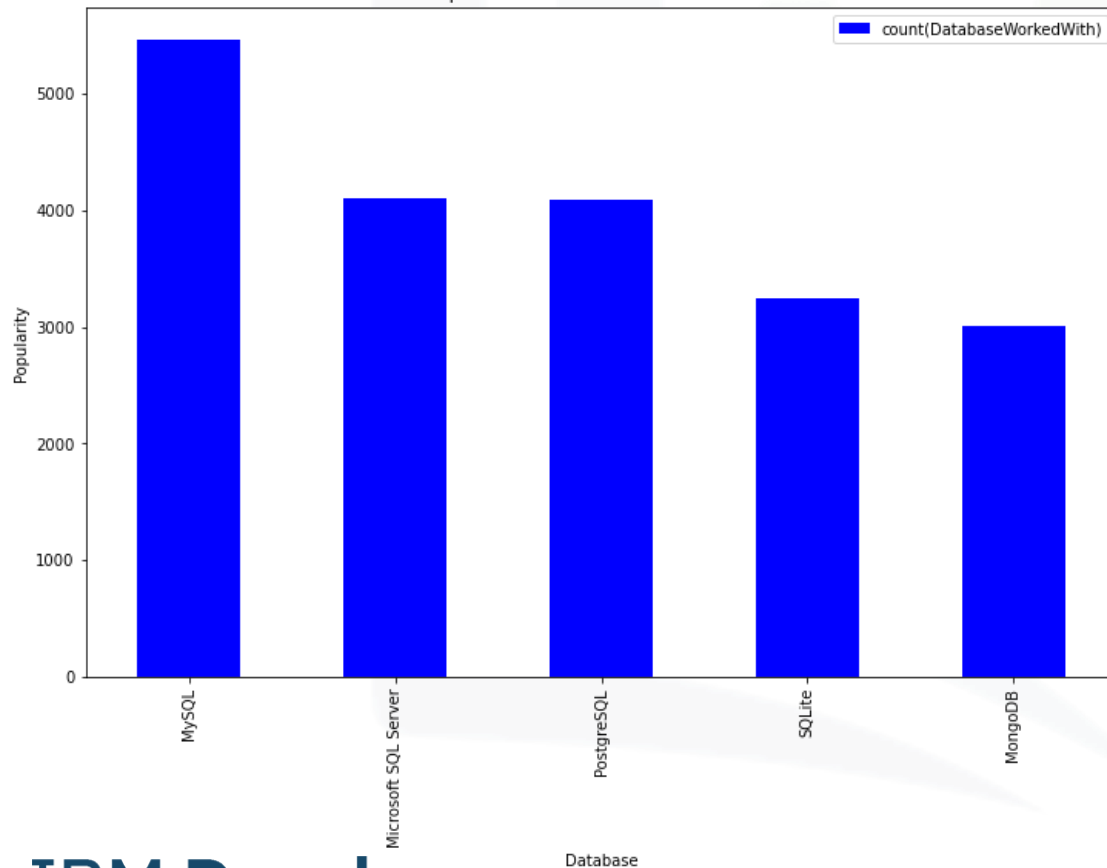- TypeScript replaced Bash/Shell/PowerShell in top 5

Implications

- These four languages will rule this market in future

- Python is growing faster than any other languages
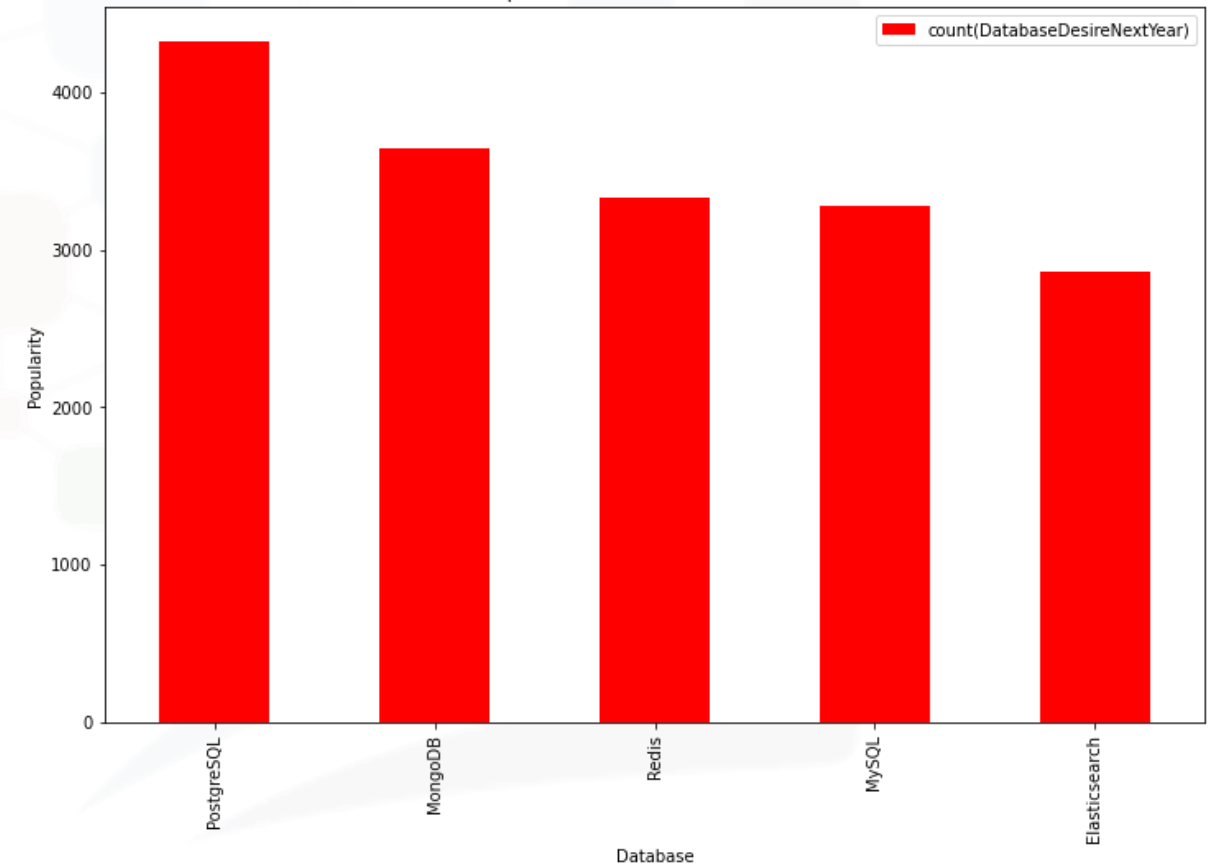
- Bash/Shell/PowerShell will be out of market in future

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DATABASE TRENDS

Current Year

Next Year

DATABASE TRENDS

Findings

- MySQL, PostgreSQL and MongoDB are among top 5 in both charts
- PostgreSQL and MongoDB promoted respectively from 3rd to 1st and 5th to 2nd
- Two out of top 5 are replaced with another databases

Implications

- These three databases keep being popular
- The future of thus market is for PostgreSQL and MongoDB
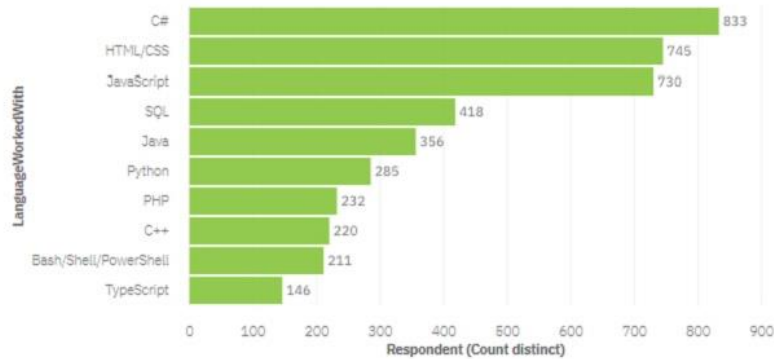- The changes among databases' popularity is fast

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DASHBOARD

Here is the link to live Dashboard for this analysis:
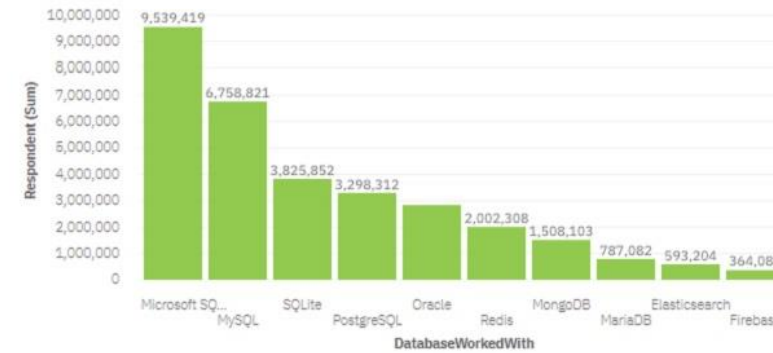
https://dataplatform.cloud.ibm.com/dashboards/ae57d870-6ad5-4a49-bd07-7f0c3b2343e5/view/0167de7e3aa218f756d0dce4079f790e7f3e715db3bb800185d67b4959652397a86e4196c87c4f52d3400c32f5bd43519b

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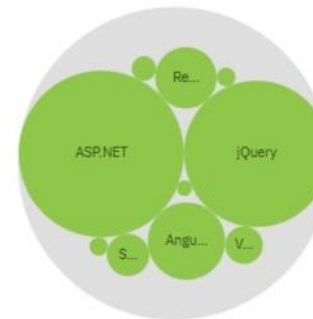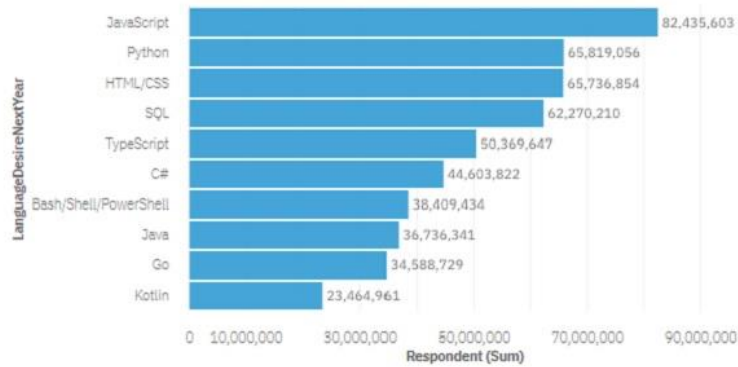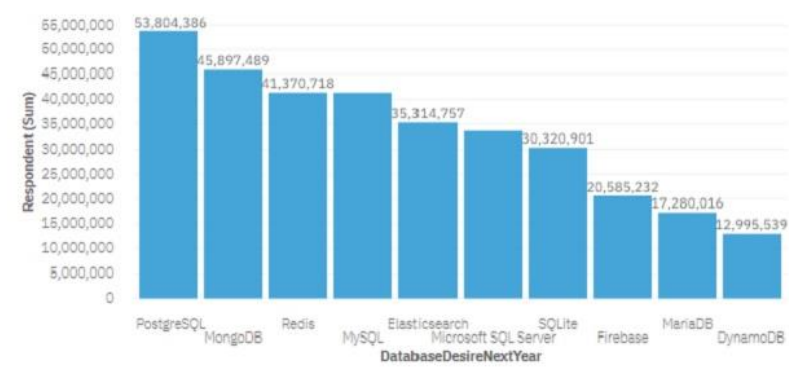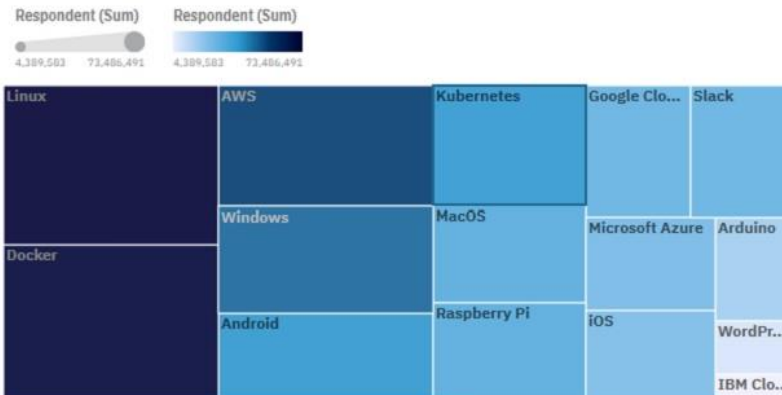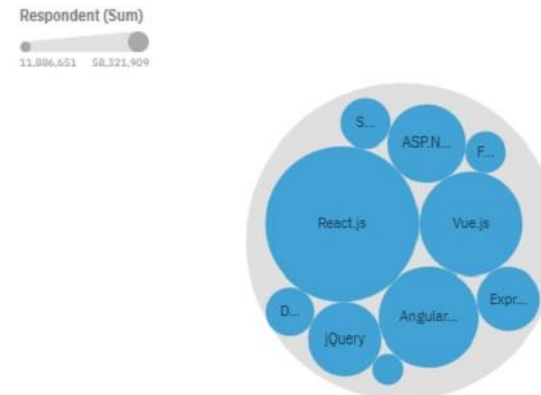
DASHBOARD TAB 1

DASHBOARD TAB 2

DASHBOARD TAB 3
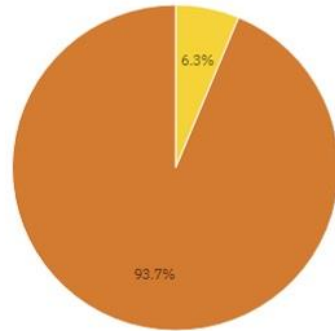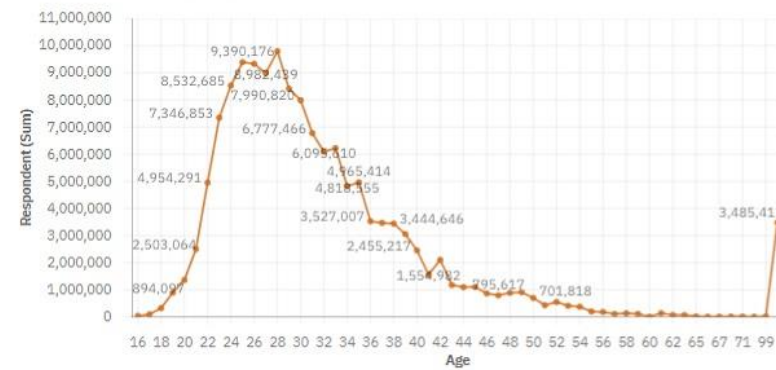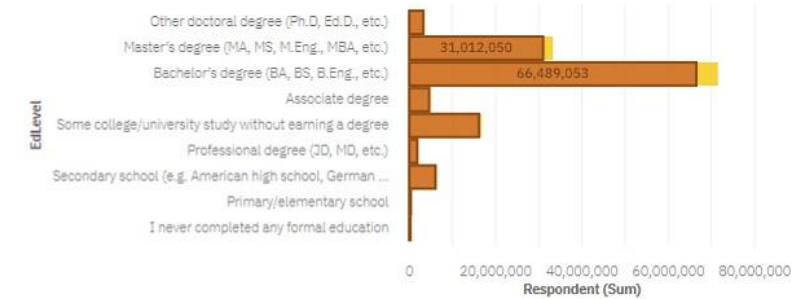
DISCUSSION

- In some technologies the changes are faster than expectations. Considering the fast changes in trends, we need to keep analysing frequently.

- Most of the programmers are educated people between 20 and 40, so they are flexible to these changes.

- The analysed survey is biased toward male users in the US. Although it's better to broaden the data sources, it is unlikely to see any change in the results.

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OVERALL FINDINGS & IMPLICATIONS

Findings

- JavaScript, HTML/CSS and Python are popular languages, with Python growing faster.
- PostgreSQL, MongoDB and MySQL are popular Databases.
- Windows will lose its position as 1st Platform and there are vast changes among Web Frames.

Implications

- Python requires an especial attention in future.
- We need to focus more on PostgreSQL, MongoDB databases while keeping our attention to MySQL.
- Linux and Docker are the future Platforms and React.js is the future Web Frame.

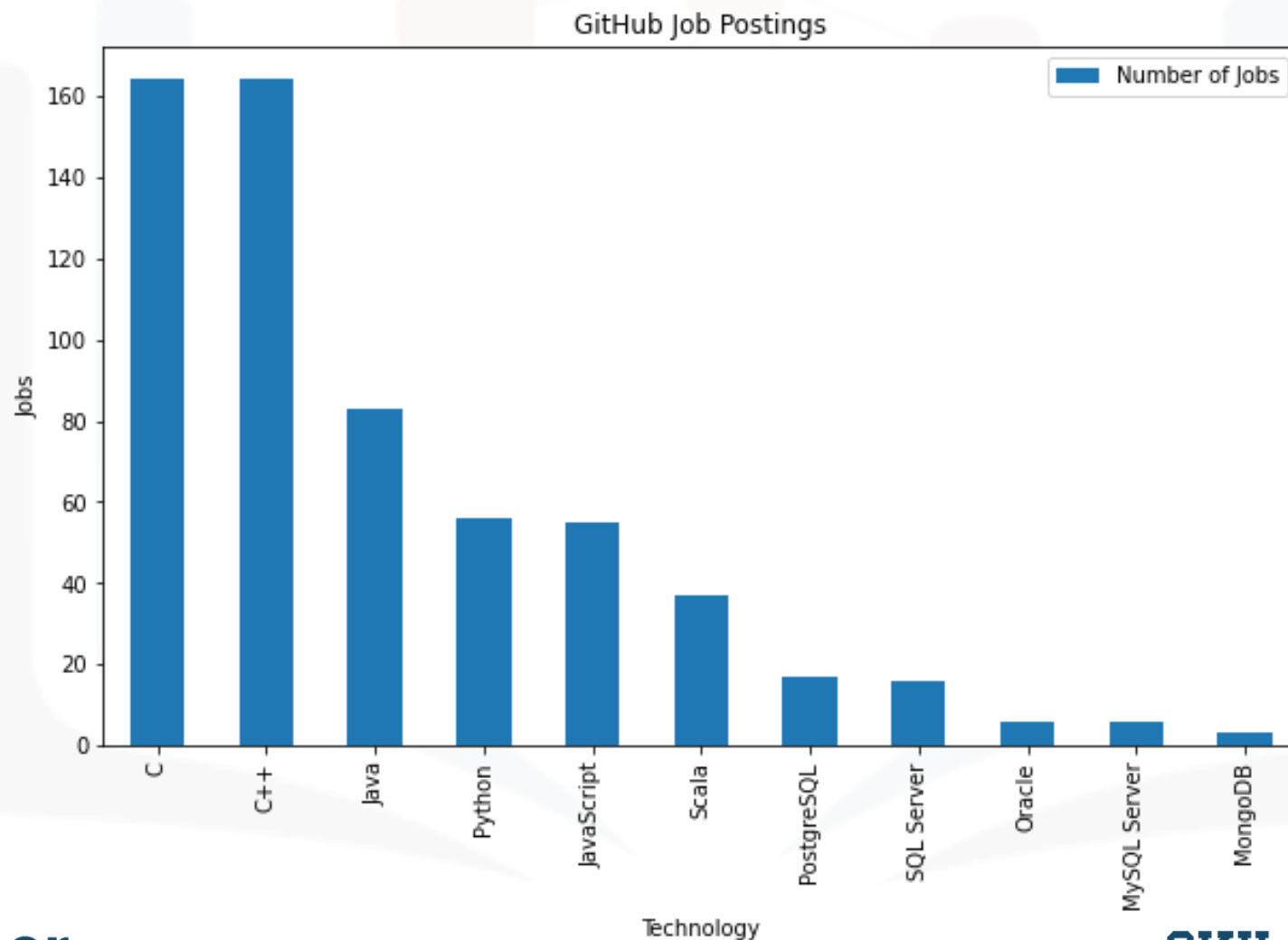**IBM Developer**

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CONCLUSION

- Python should be our 1st recommendation among the programming languages.
- We can warily suggest PostgreSQL, MongoDB databases.
- Linux and Docker could be good suggestions among Platforms and React.js is the best Web Frame to be recommended.

APPENDIX

The shares of top 5 future languages and databases:
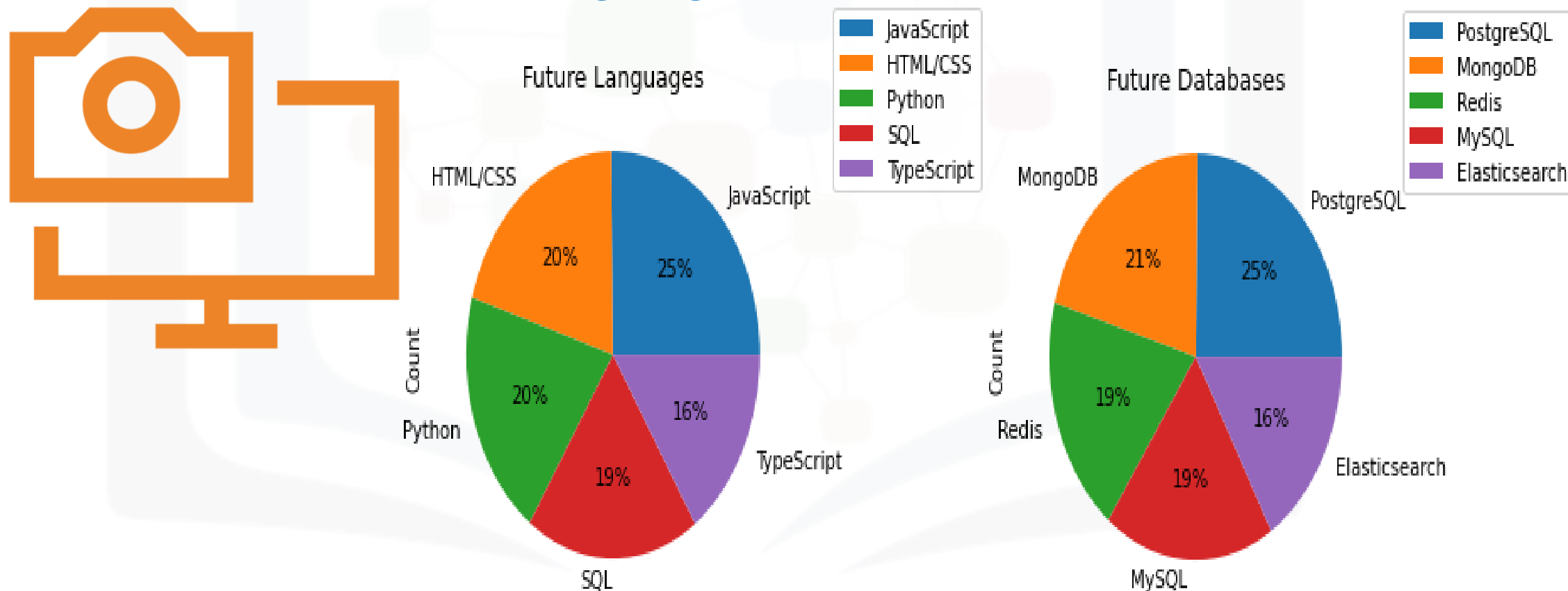
GITHUB JOB POSTINGS

POPULAR LANGUAGES