Identifying emerging skill requirements in data science

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OUTLINE

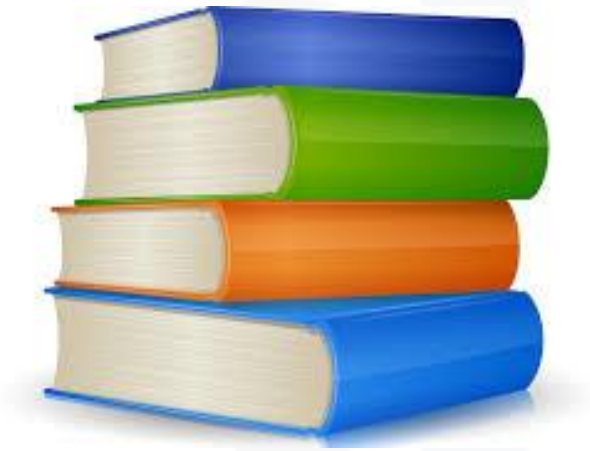
- Executive Summary
- Introduction
- Methodology
- Results
  - Visualization – Charts
  - Dashboard
- Discussion
  - Findings & Implications
- Conclusion
- Appendix

EXECUTIVE SUMMARY

- The emerging skills requirements analysis findings:

- Invest in Java, SQL and Python
- Drop databases and language no longer desired

INTRODUCTION



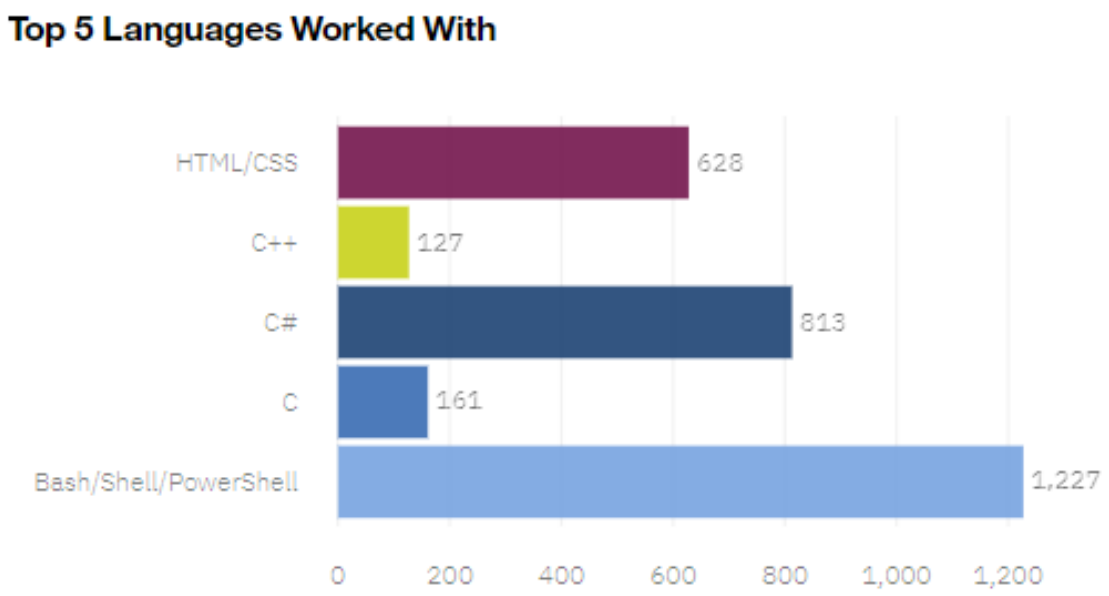
- The report is targeted at management who will gain insight into the trends of languages, skills in the demand as well as IDE’s, namely by answering the following questions:
- What are the top programming languages in demand?
- What are the top database skills in demand?
- What are the popular IDEs?

METHODOLOGY

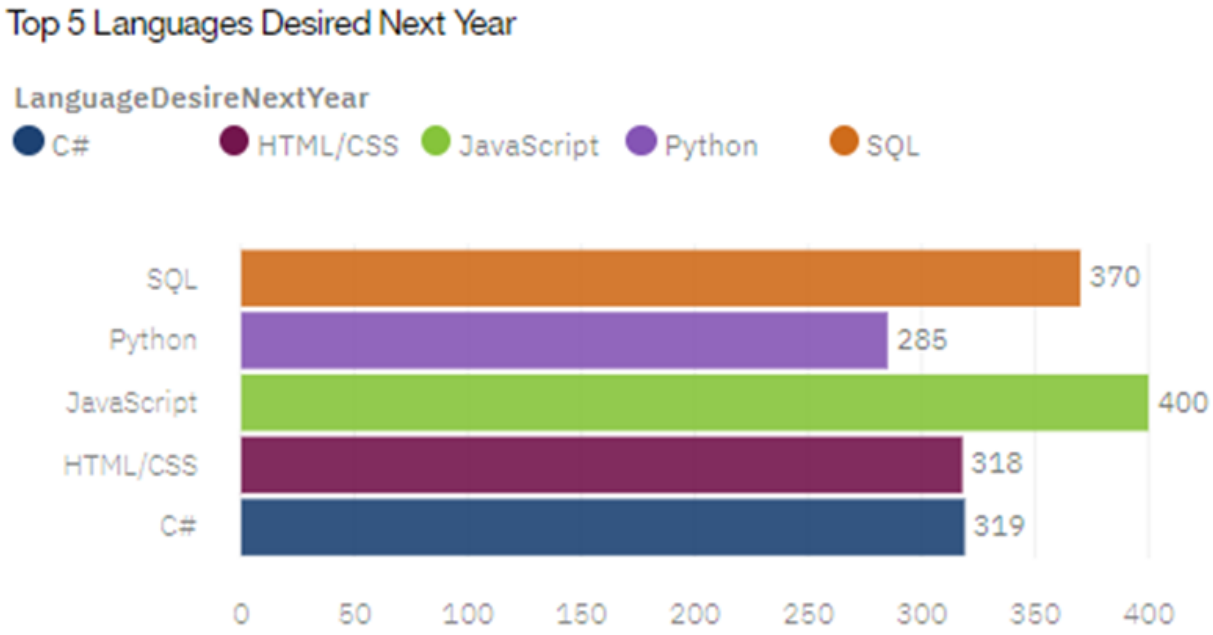
- Data collected from:
  - Job postings
  - Training portals
  - Surveys
- IBM Cognos Analytics used for data analysis
- Data charts used for analysis in Watson Studio

PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

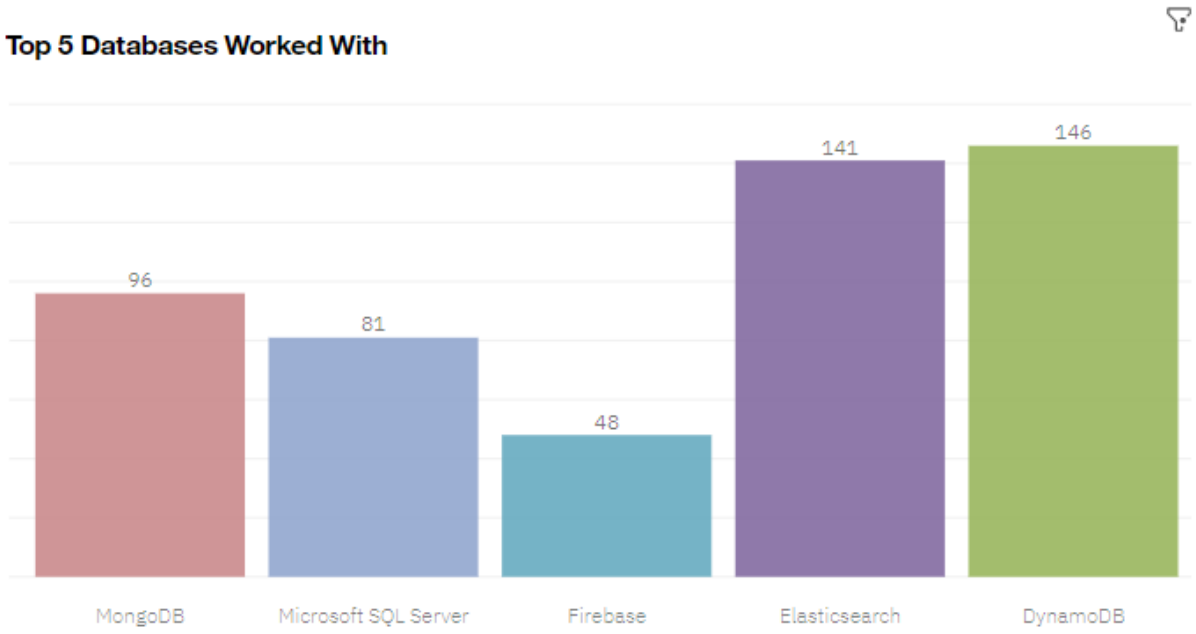
- Java and SQL become top desired languages
- C# & HTML/CSS retain top 5 position but lose popularity
- Python joins top 5 desired

Implications

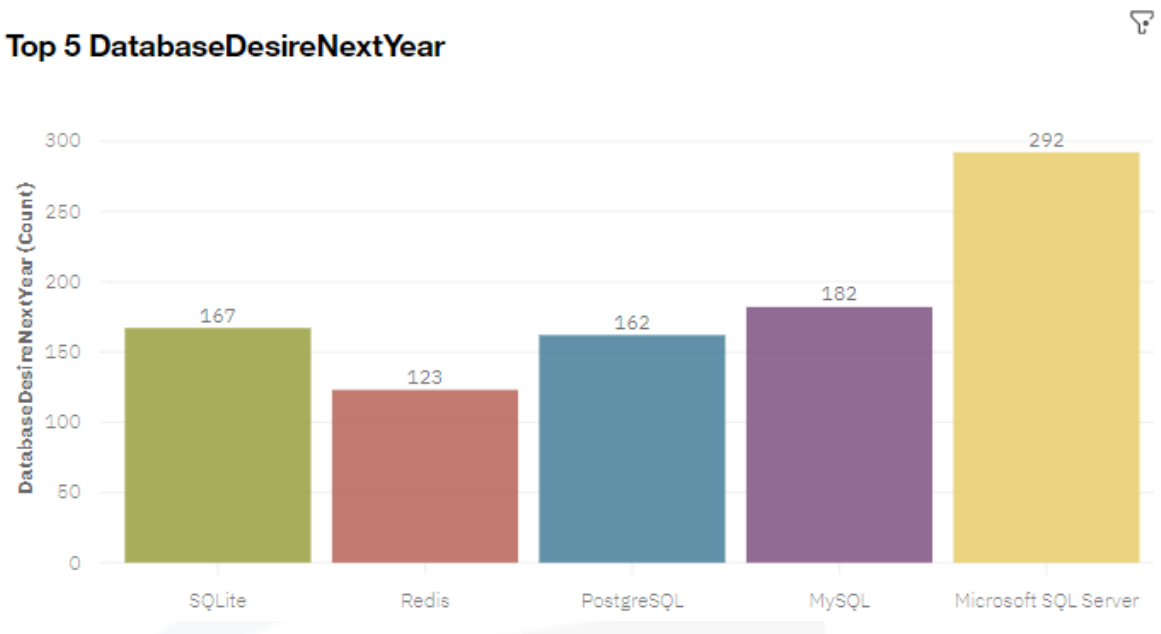
- Invest in training and systems for Java and SQL
- Further investigate why C# & HTML/CSS lose popularity
- Invest more in Python training and systems

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

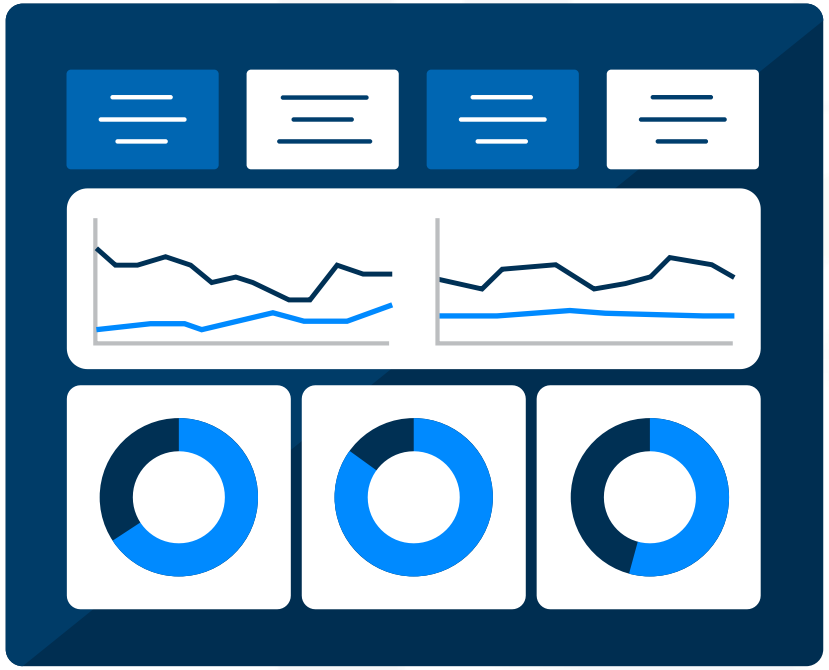
Findings

- Microsoft SQL becomes top desired by a margin
- Current top 5 lose 4 databases as desired
- SQL databases are in the top 3 desired

Implications

- Review databases currently in use and upgrade
- Invest more in SQL training and databases
- Investigate reasons for Microsoft SQL becoming top desired database

DASHBOARD



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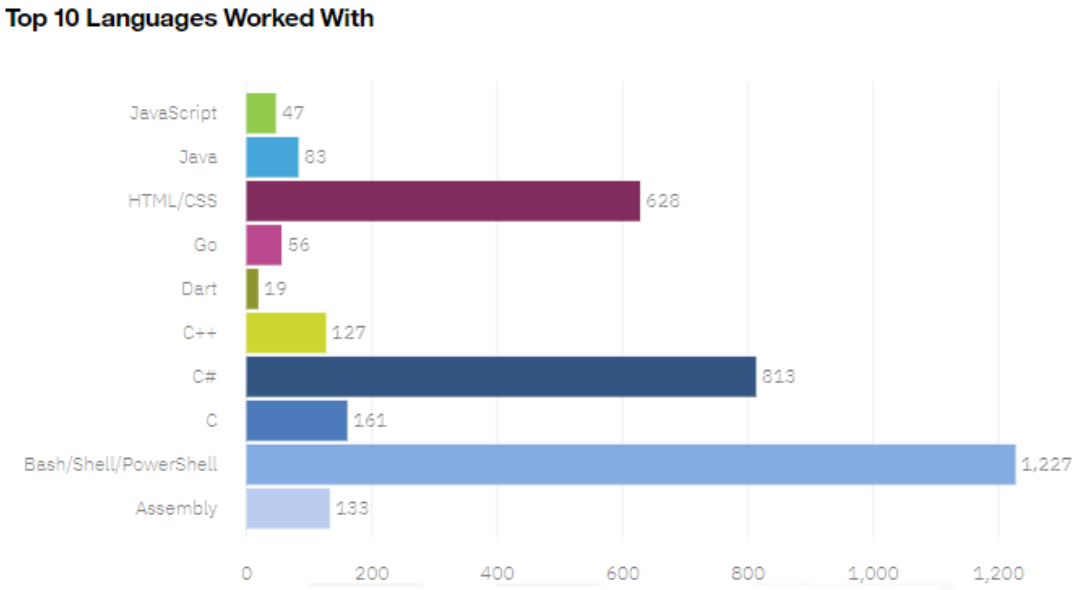
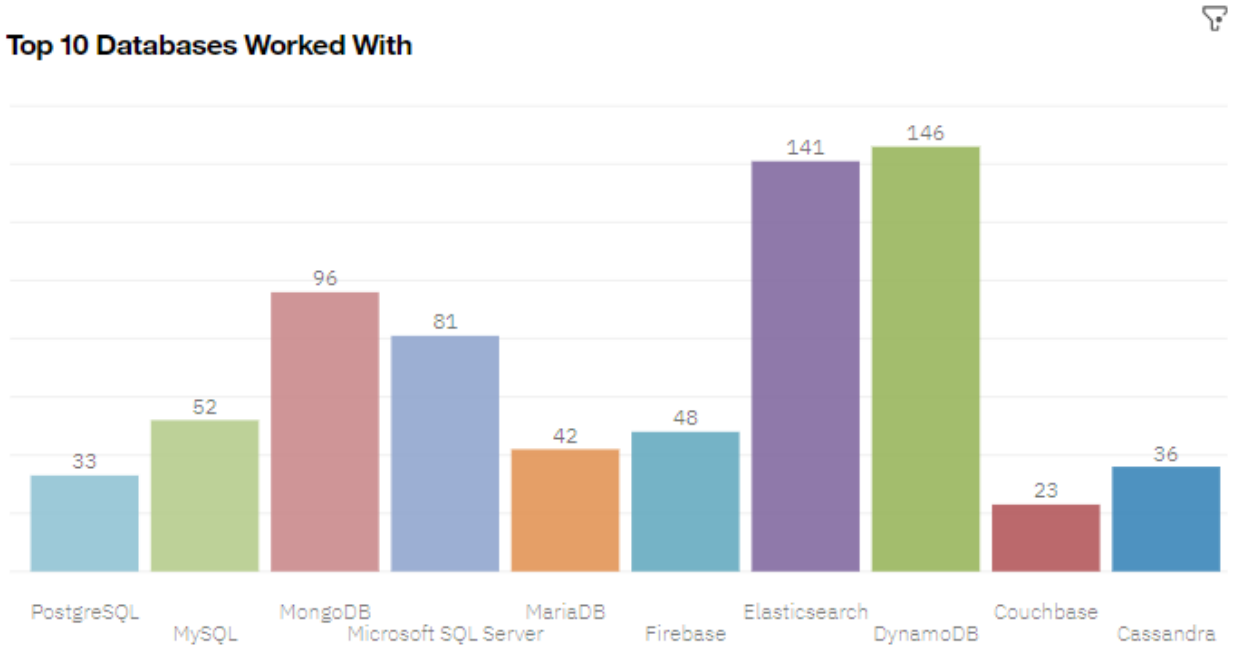
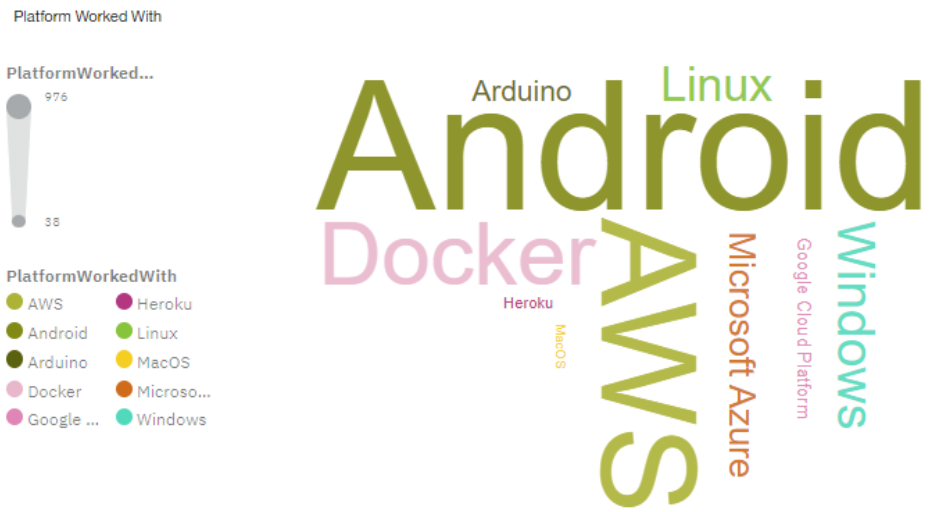
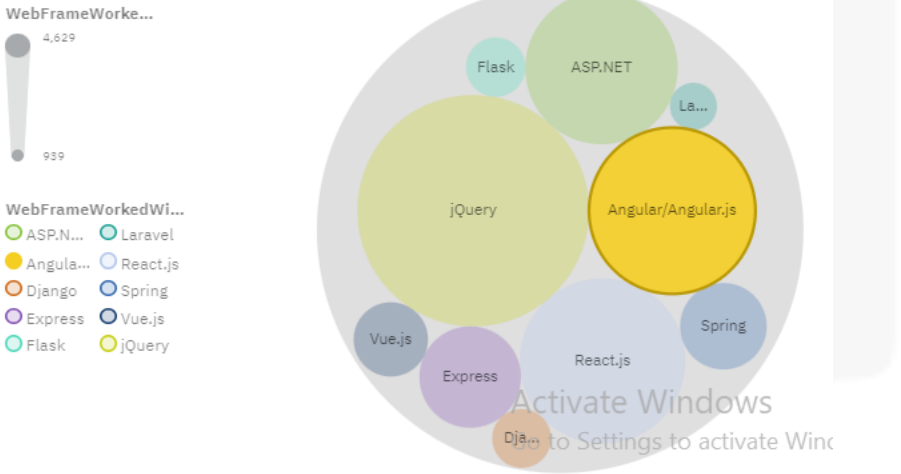
DASHBOARD TAB 1

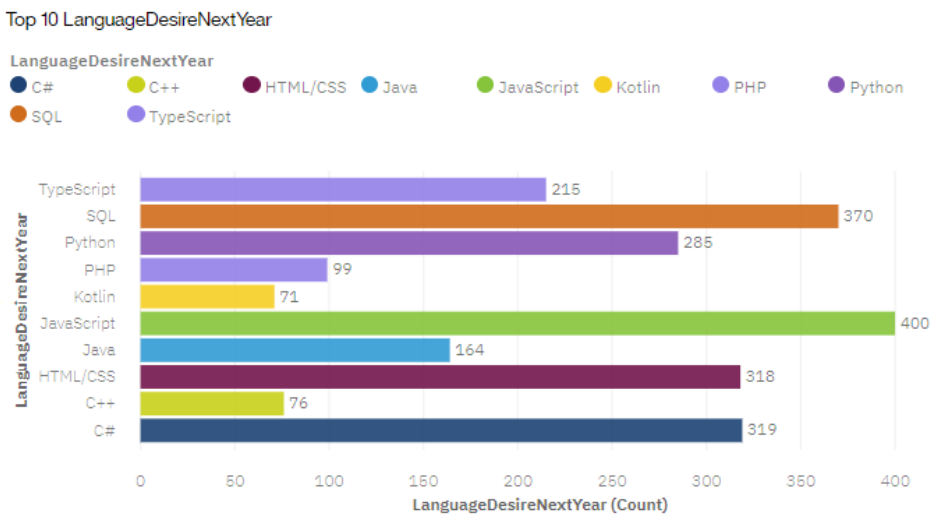


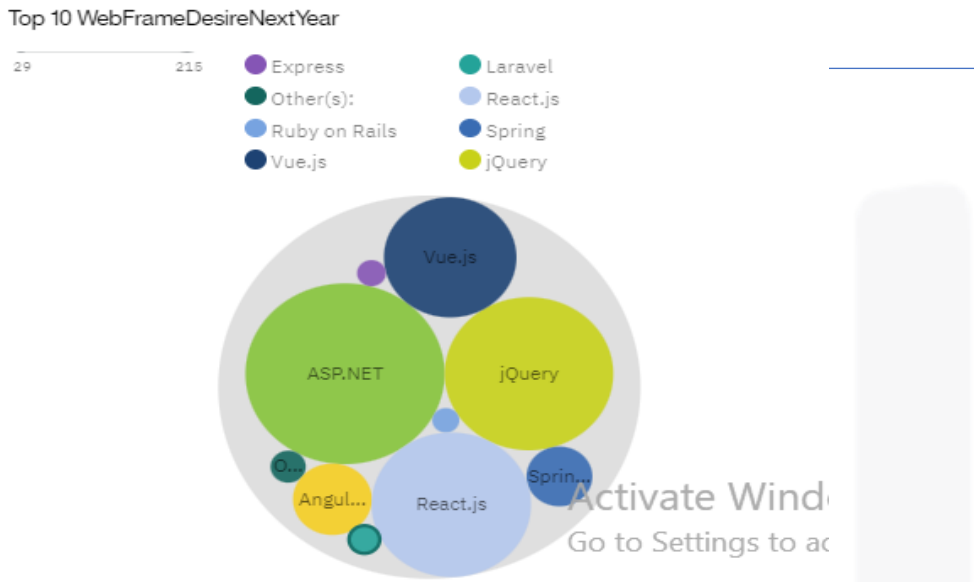


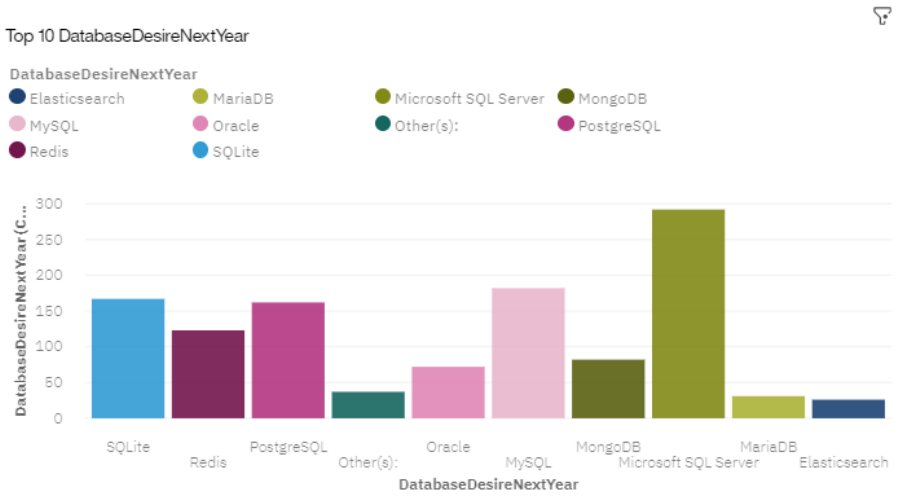


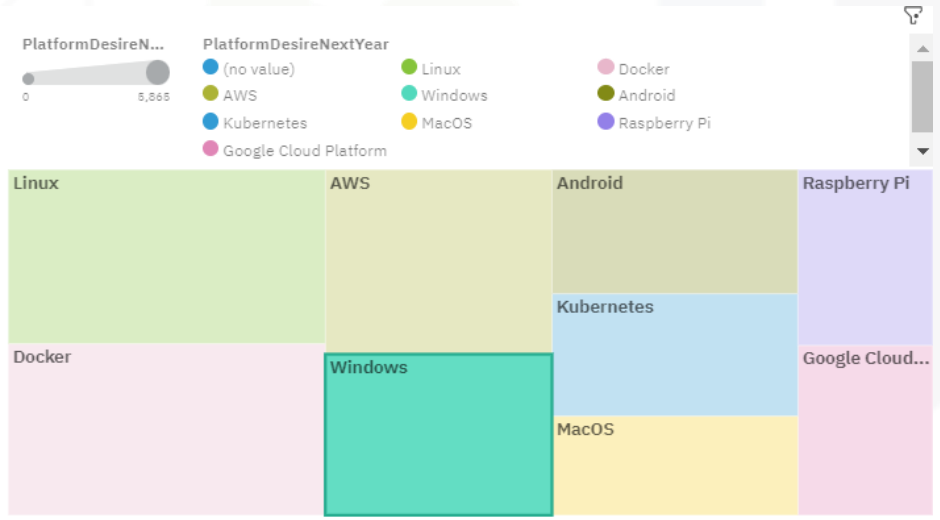


DASHBOARD TAB 2



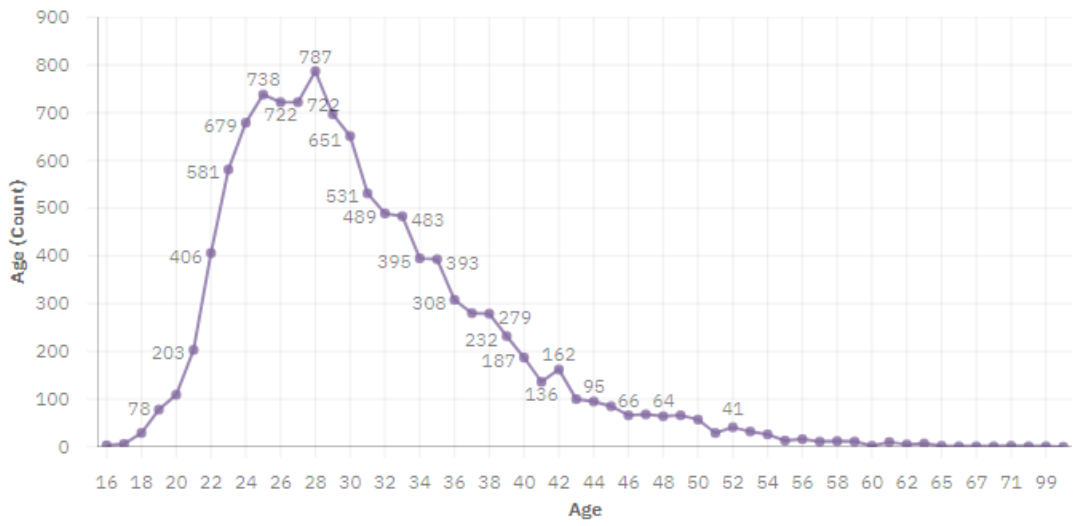




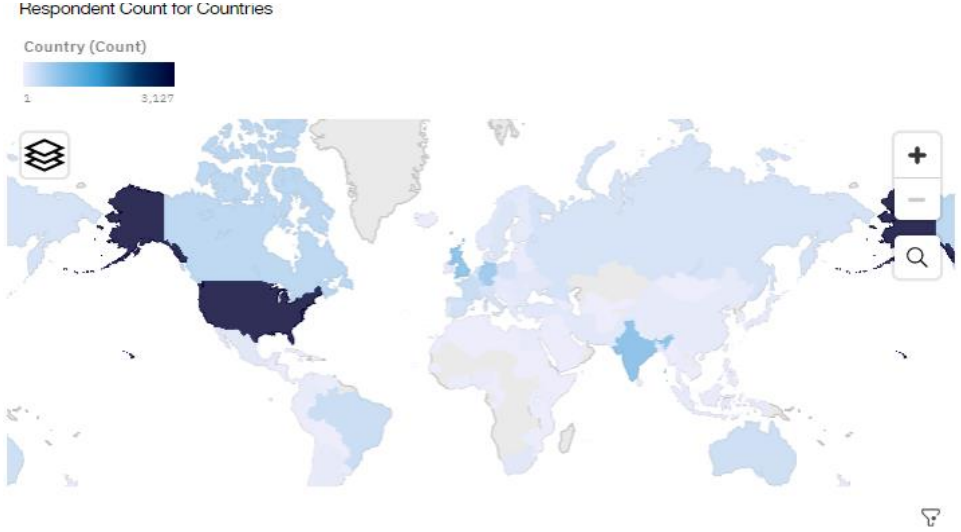


DASHBOARD TAB 3

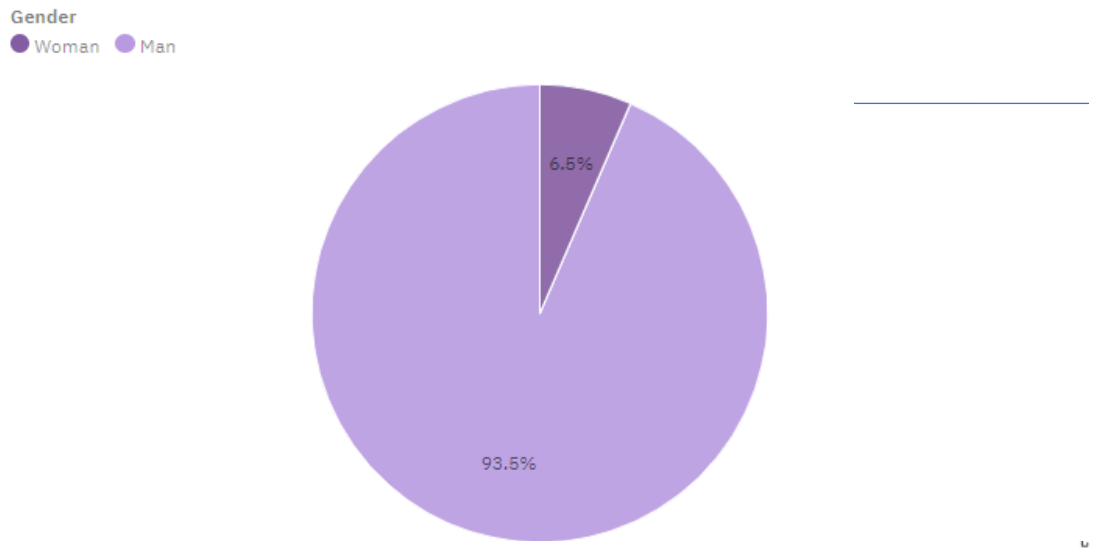
Respondent Count by Age

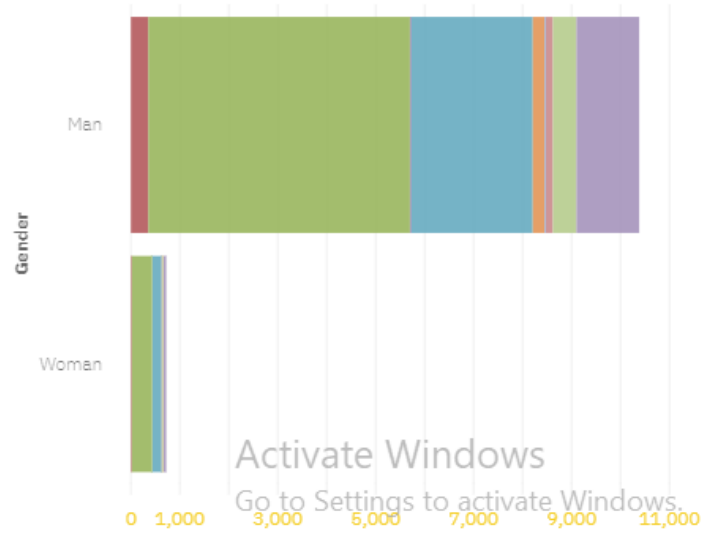


Respondent Count for Countries



Respondent classified by Gender





DISCUSSION

- Women are still the minority (less than 10%) – are there any current practices preventing women from joining?
- Most respondents have higher education (min Bachelor's degree) – should this be changed in the industry to allow trained professionals without a formal degree to fill the skills gap?

OVERALL FINDINGS & IMPLICATIONS

Findings

- Women are still the minority (less than 10%) Finding 2
- Most respondents are in their late twenties/early thirties
- Vast majority of respondents have a bachelors or a masters degree

Implications

- Women should be encouraged to join the industry
- More of age diversity is a must perhaps by lowering the degree requirements

CONCLUSION

- Provide incentives and support for more women to join the industry
- Invest in SQL languages & databases
- Look to recruiting different ages and educational backgrounds

JOB POSTINGS