Developer trends survey 2023

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OUTLINE

- Executive Summary
- Introduction
- Methodology
- Results
  - Visualization – Charts
  - Dashboard
- Discussion
  - What's next?
- Conclusion
- Appendix

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EXECUTIVE SUMMARY

Researching the data about the programming languages and databases can give a valuable business information about developer community.

Those valuable insights contain information which is useful for global IT strategy development.

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INTRODUCTION

- Main goal is to identify global programming language and database trends and make valuable insights
- Research is based on data from worldwide online survey
- Analytical conclusions are made from processing vast unstructured data
- There are 3 main subparts
  - Current technology state
  - Future trends
  - Demographic statistics

METHODOLOGY

- Collect and sort data from surveys and online sources
  - Web scraping
  - API
  - Datasets
- Data analysis
  - Data analyst toolkit
- Visualize findings
  - Python
  - IBM Cognos
- Create presentation and interactive dashboards
  - IBM Cognos
  - MS PowerPoint
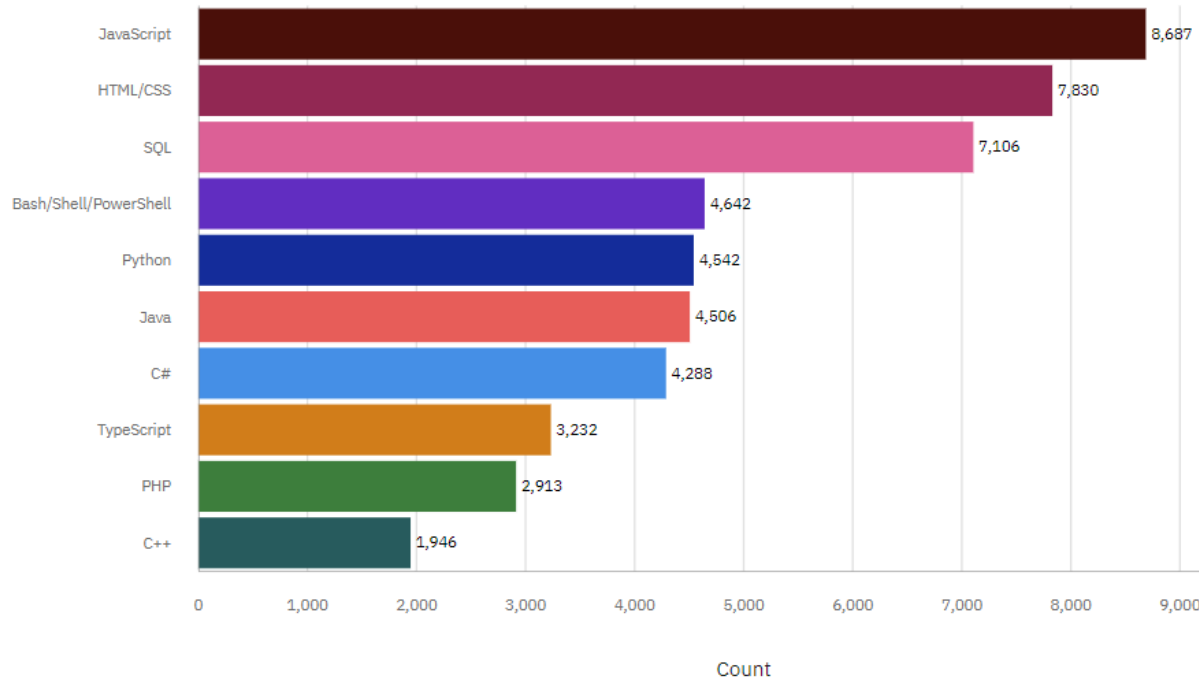- Make clear and reliable propositions about research topic
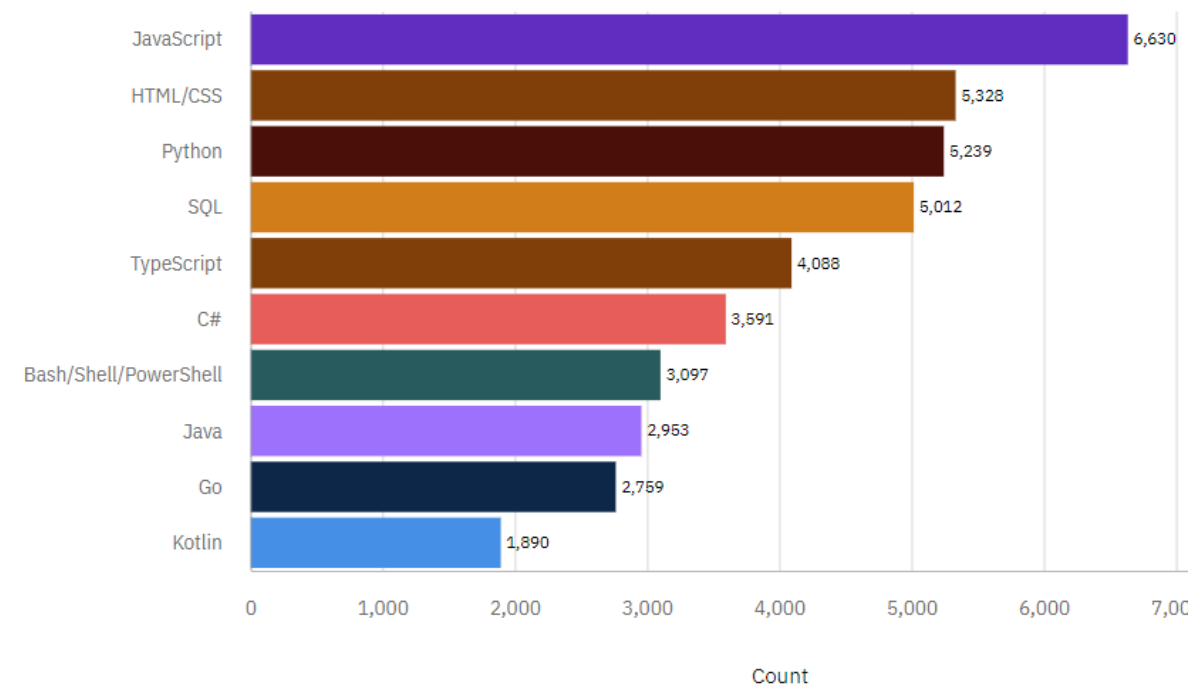
RESULTS

PROGRAMMING LANGUAGE TRENDS

Current Year

Top 10 Languages Worked With

Language Name	Count
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

Next Year

Top 10 Desired Languages

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

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PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Javascript is leading the pack
- Fundamental basic languages such as SQL and HTLM/CSS are popular and still wishful to learn
- Python and Typescript have the best dynamics

Implications

- Typescript is a good skill development choice for every Javascript developer
- Newcomers such as Go and Kotlin show modern trends and can lower older language popularity
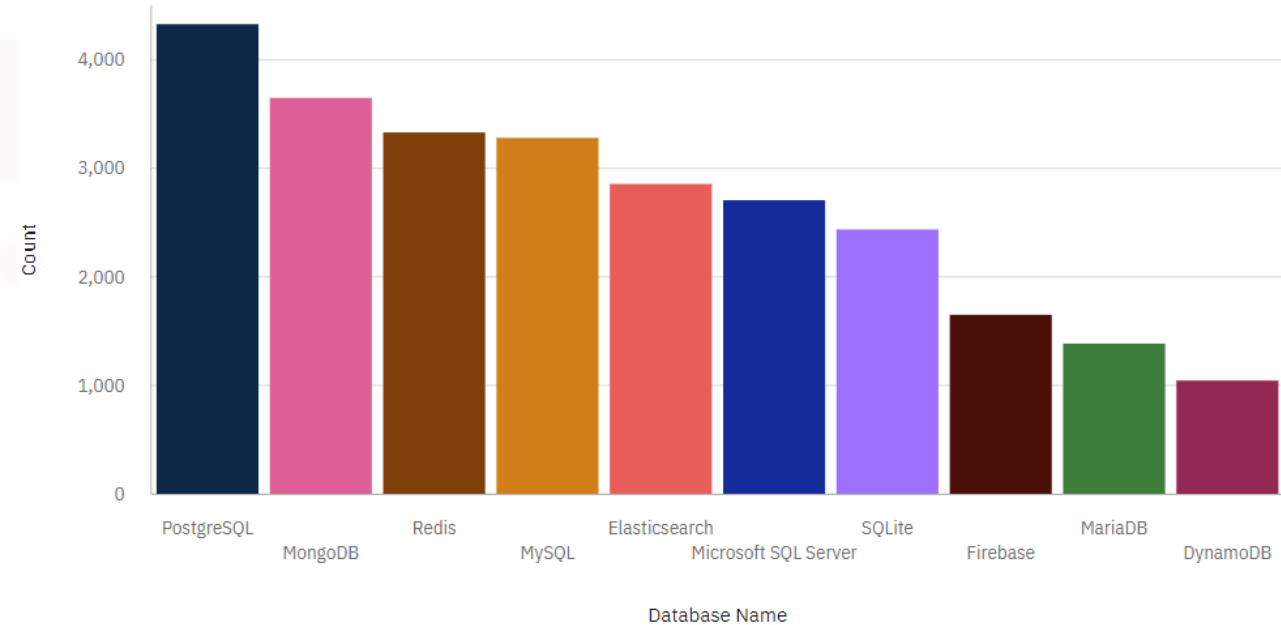- Python is still a win-win choice for everyone

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DATABASE TRENDS

Current Year

Top 10 Databases Worked With
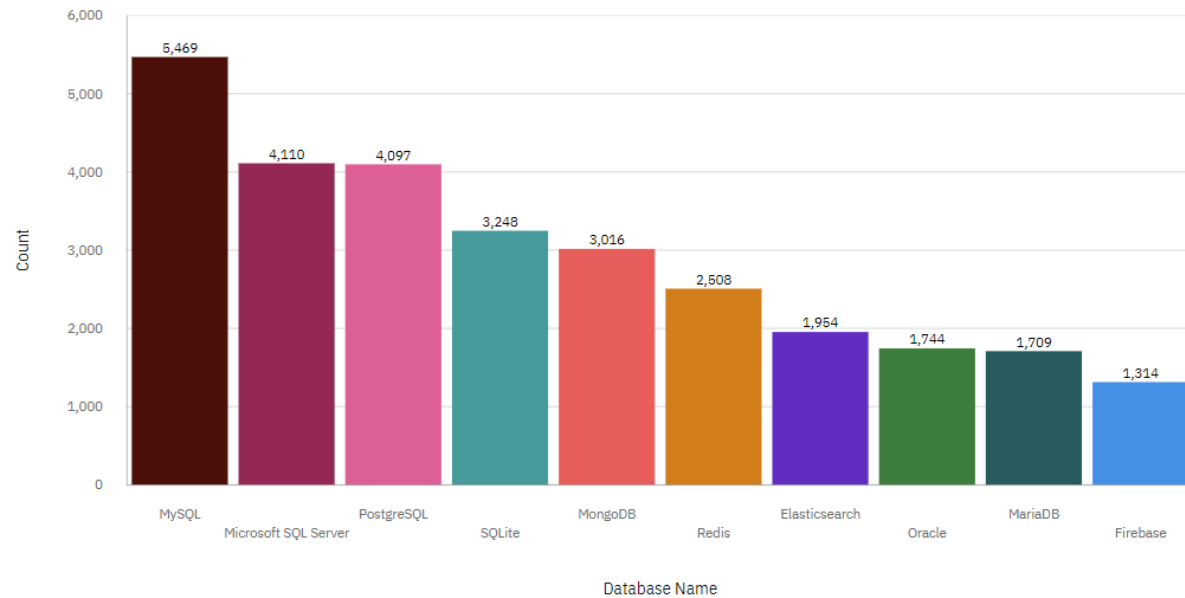
Next Year

Top 10 Desired Databases

DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL is the most popular so far
- PostgreSQL is the most desired to use

Implications

- Older products from Oracle and MS are loosing ground to new ones (Postgre, Mongo, Redis)
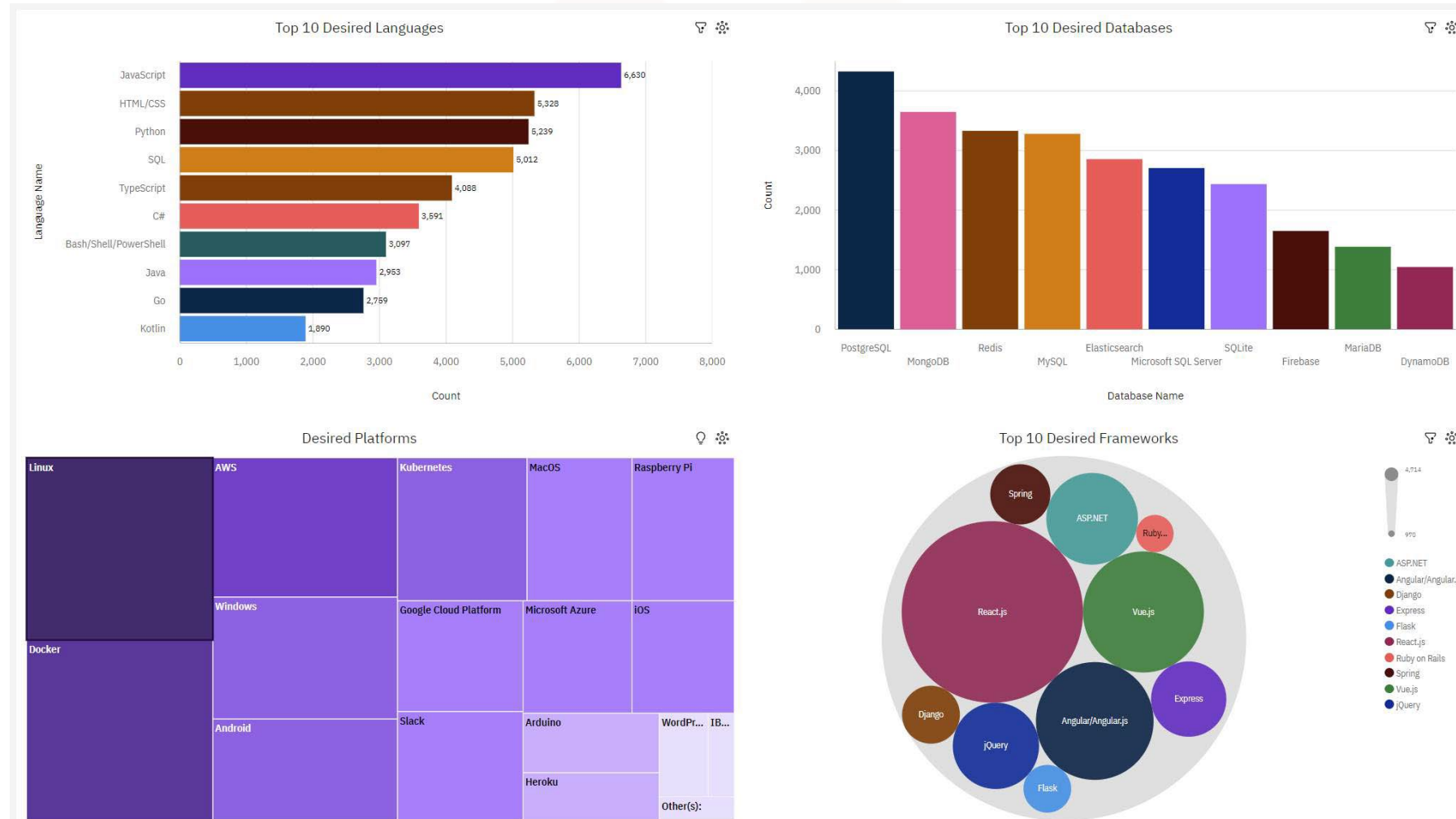- PostgreSQL looks the most perpective DB at the moment

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DASHBOARD

https://us1.ca.analytics.ibm.com/bi/?perspective=dashboard&pathRef=.my_folders%2FFuture%2BTechnology%2BTrend&action=view&mode=dashboard&subView=model000001887bdc2e35_00000002
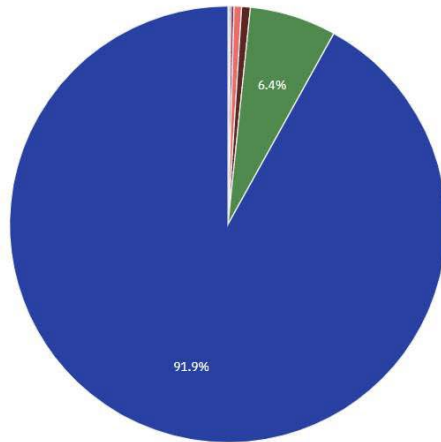
Current Technology Usage
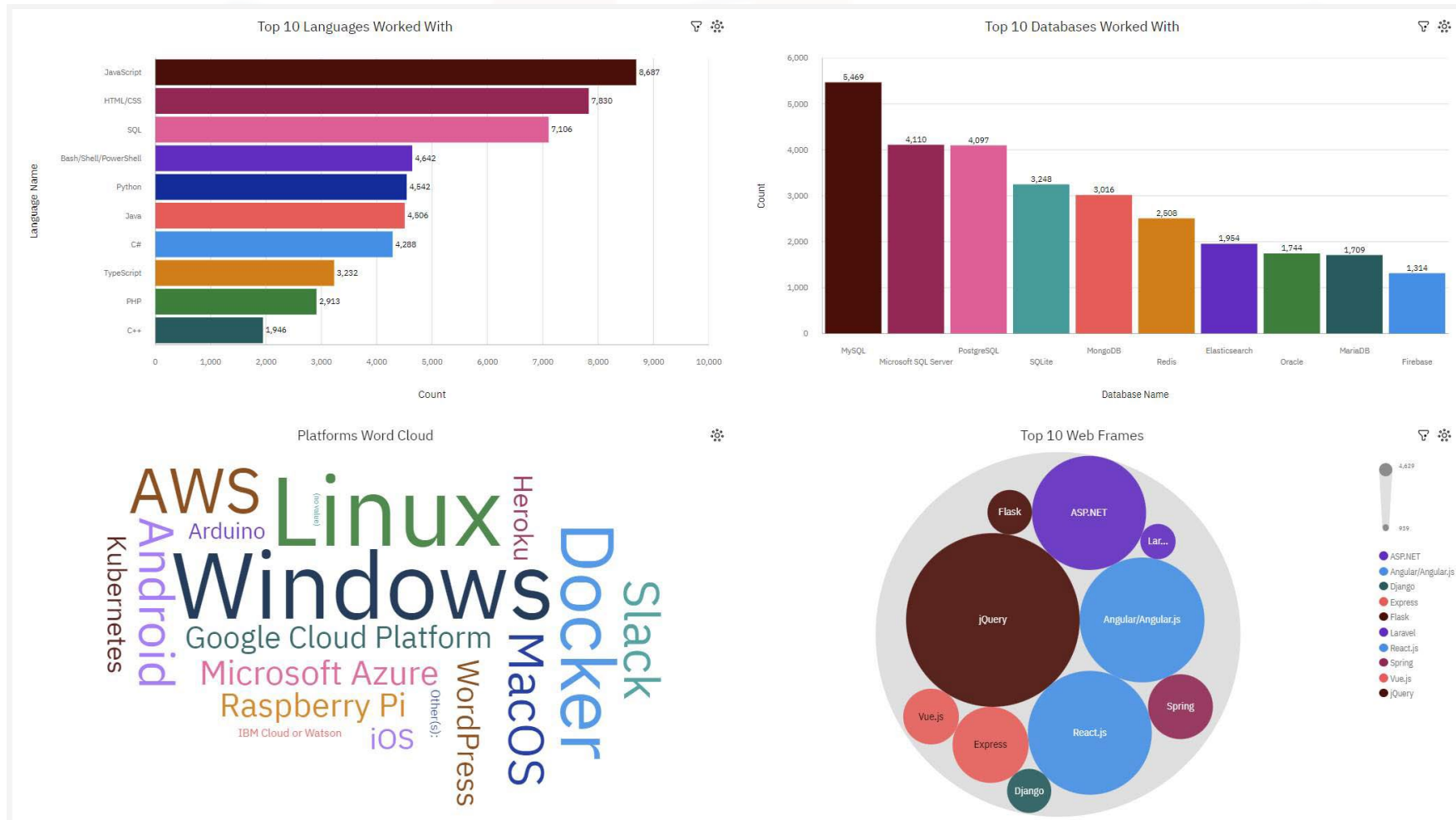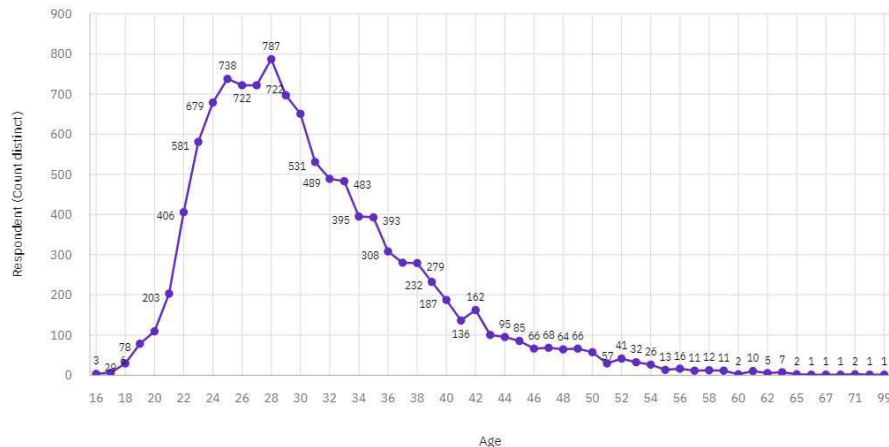
Future Technology Trend

Demographics
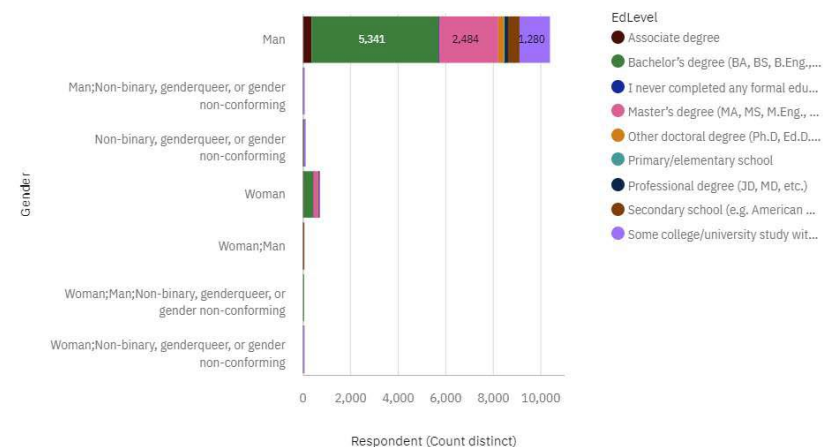
DISCUSSION

Some further research and discussion topics:

- Technical aspects of different languages/DBs as a factor of popularity
- Demographic variables affecting trends

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OVERALL FINDINGS & IMPLICATIONS

Findings

- Web-oriented technologies are the most popular

- Newer languages and databases replace older ones

- Technologies are somewhat consistent in Y/Y change

Implications

- Web applications are more perspective than classic ones

- New non-relative databases are a top-edge choice
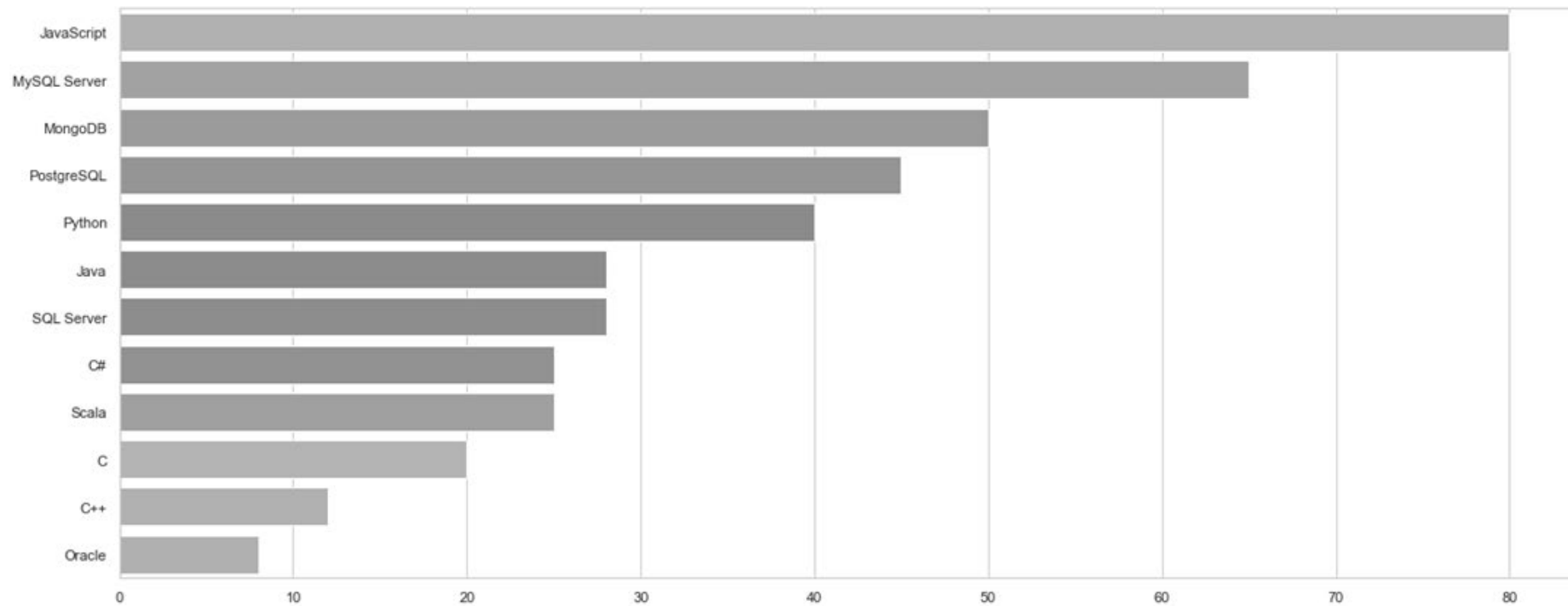
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CONCLUSION

- A valuable information about popularity trends can be obtained from surveys
- Most relevant languages are web-based ones
- Most perspective databases are non-relative ones

APPENDIX
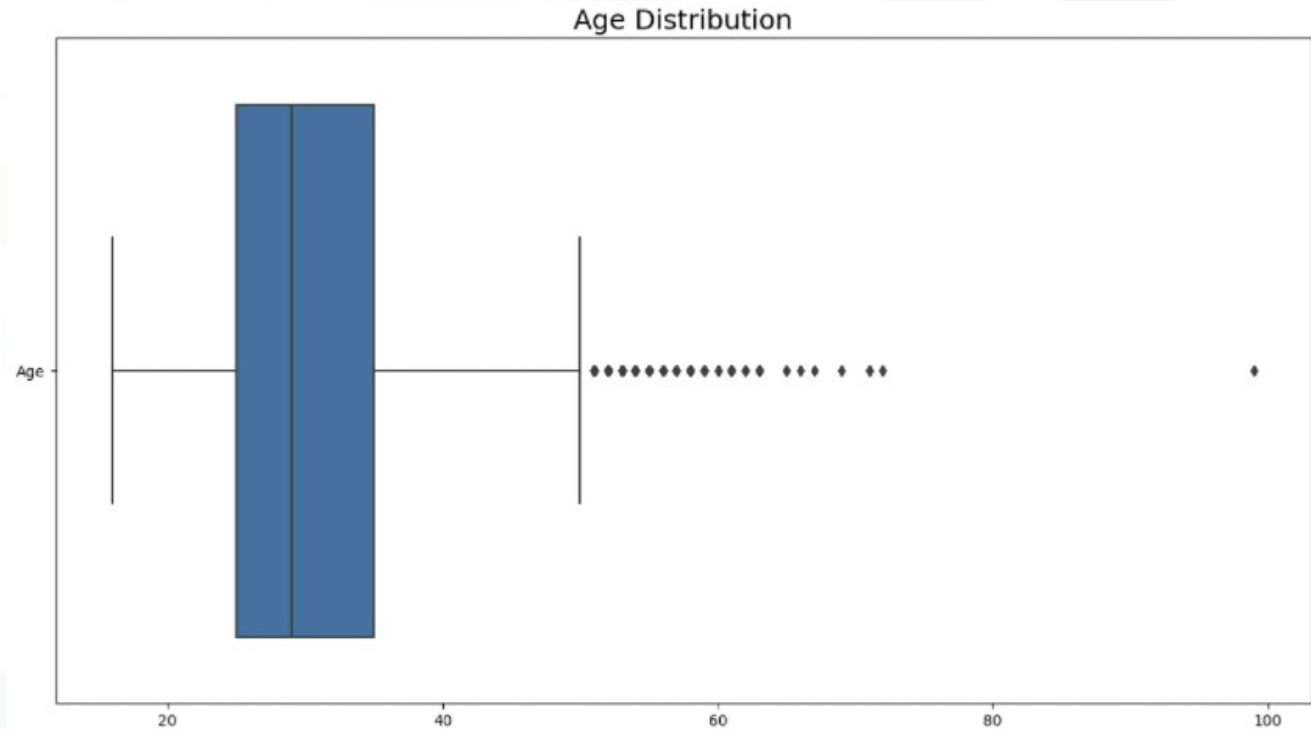
JOB POSTINGS

Number of job postings by language

POPULAR LANGUAGES

Average salary by language