Stack Overflow's 2019 Annual Developer Survey Visualized

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December 8, 2024

OUTLINE

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EXECUTIVE SUMMARY

Top programming languages in demand:

- JavaScript
- HTML/CSS
- SQL
- Python

Top database skills in demand:

- MySQL
- Microsoft SQL Server
- PostgreSQL

Future technologies to watch:

- Python
- Typescript
- Redis
- Elasticsearch

INTRODUCTION

- Stack Overflow's Annual Developer Survey is the largest of its kind encompassing nearly 90,000 developers.
- Current as well as desired technologies in development are highlighted.
- Developers from all over the world are surveyed.
- This survey would be of great interest to anyone involved in software development.

METHODOLOGY

Data was sourced from:

- m5_survey_data_demographics.csv
- m5_survey_data_technologies_normalised.csv
- Jobs
- Programming Languages

Data wrangling:

- Blank dimensional values were filtered out

Analysis and visualizations were completed using:

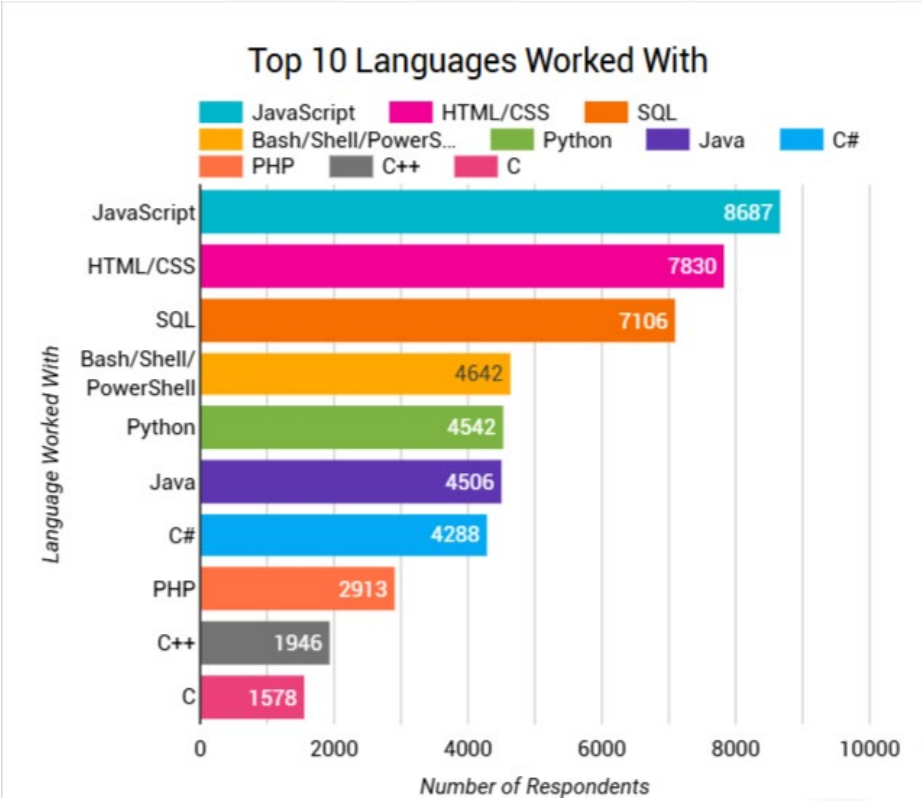
- Python
- Excel
- Google Sheets
- Google Looker Studio

RESULTS

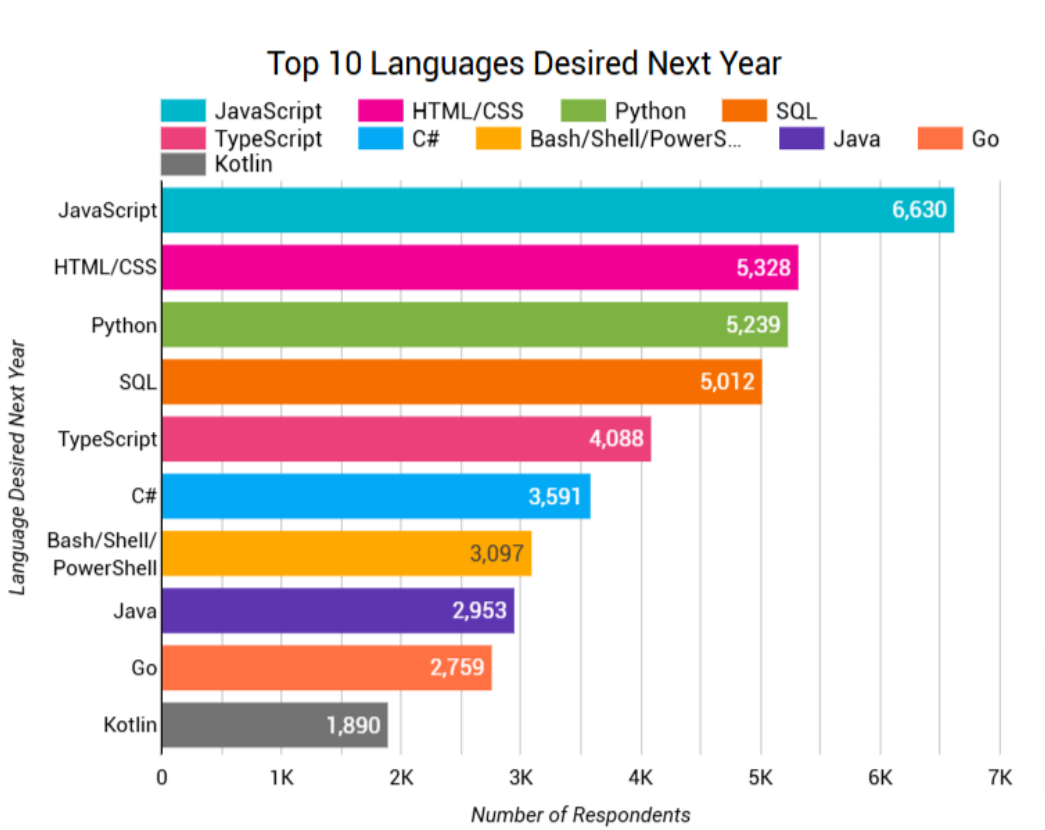
- JavaScript is the world's most used as well as desired programming language.
- MySQL and Microsoft SQL server are the most popular databases, but PostgreSQL is the most desired.
- jQuery is the world's most used web framework, but React.js is the most desired.
- The majority of developers are men, have a bachelor's degree and are under 35 years old.

PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

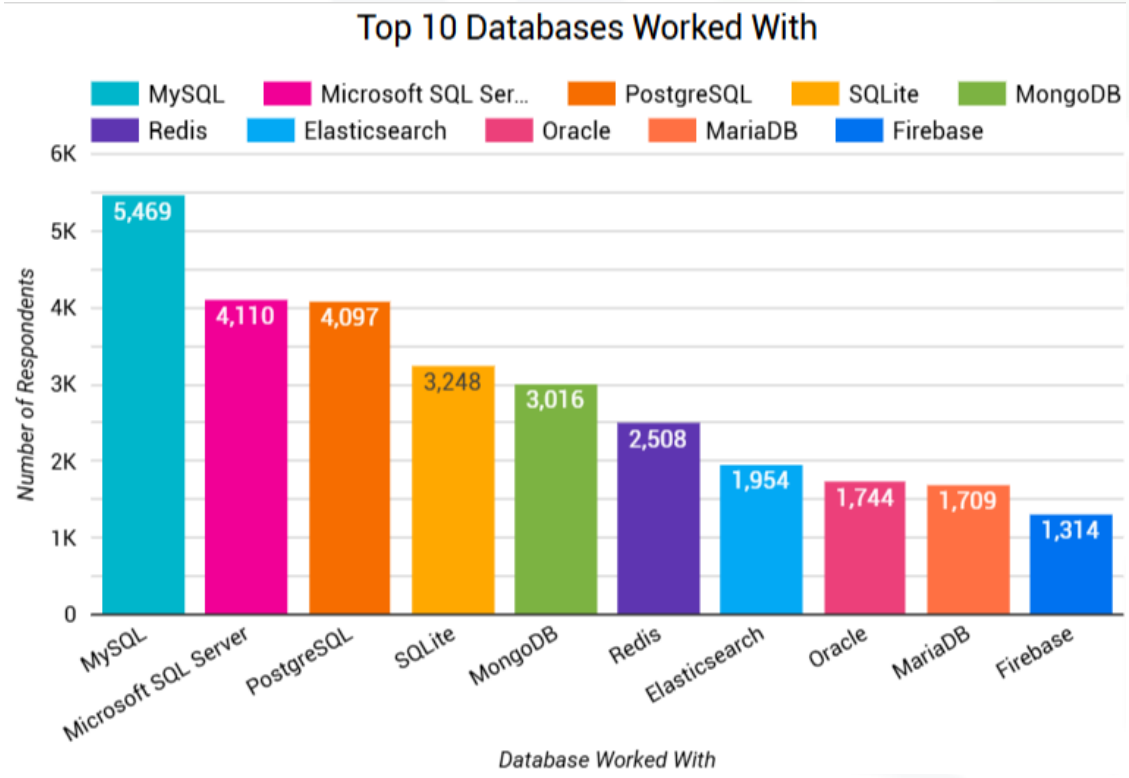
- JavaScript is the top language used by developers as well as the most desired.
- Python overtakes SQL as the third most desired language.
- PHP, C, and C++ are now at the bottom of the top 10 list.

Implications

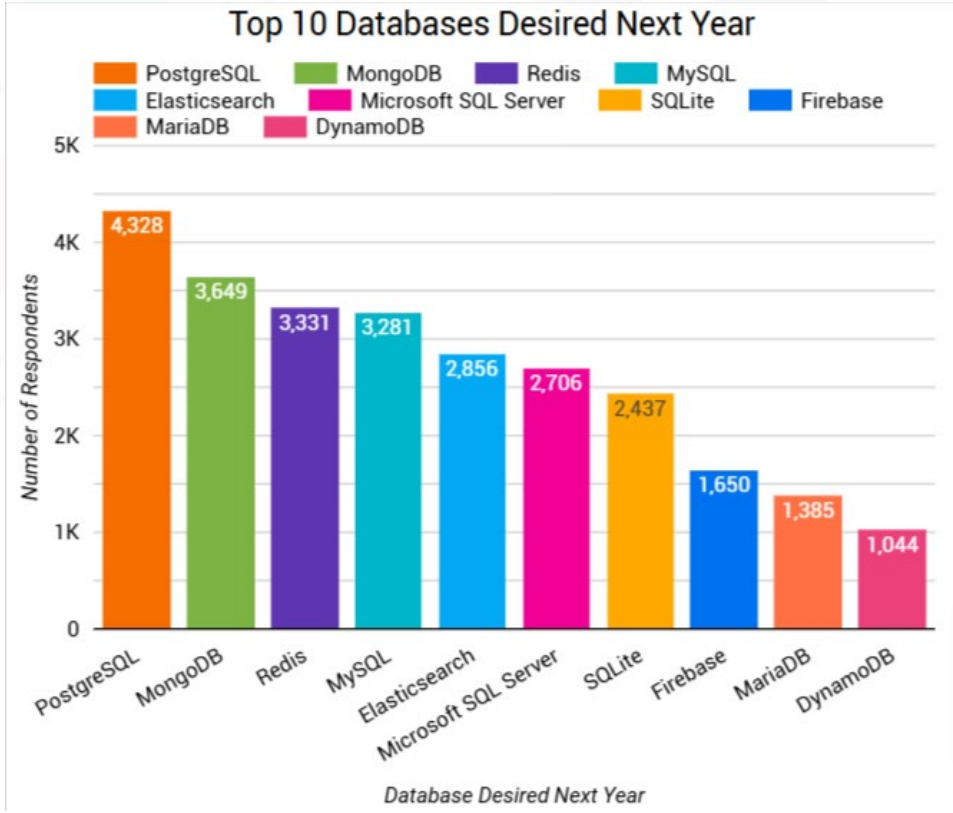
- JavaScript, HTML/CSS, and SQL's popularity indicates a need for full-stack developers.
- Increased interest in Python indicates an increase in the popularity of Data Science and A.I.
- Lower interest in legacy languages such as PHP, C, and C++ could limit employment for older developers.

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL is, by far, the most popular database.
- Microsoft SQL Server and PostgreSQL enjoy similar popularity in second and third place.
- PostgreSQL and MongoDB are the most desired databases.

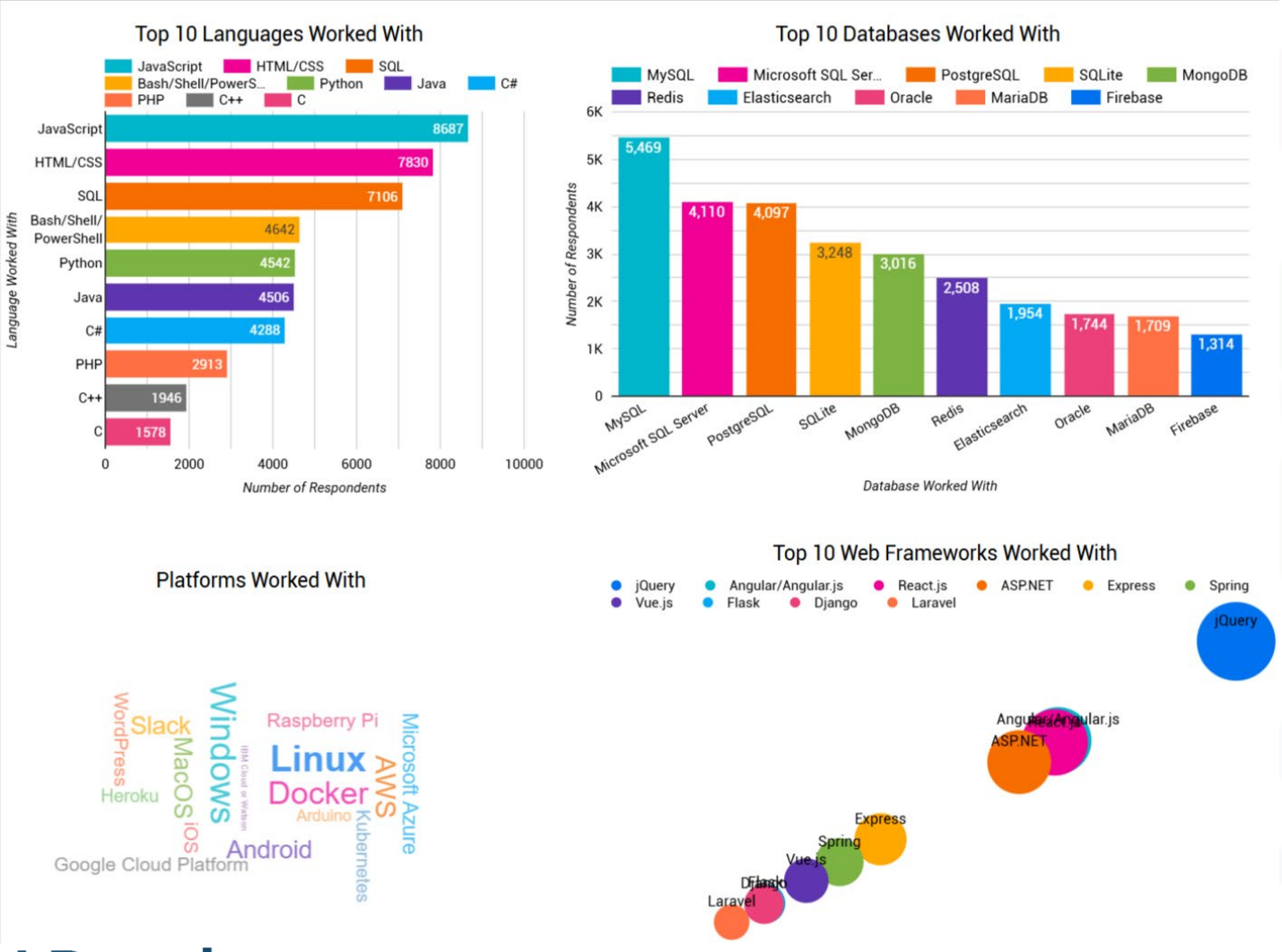
Implications

- MySQL's dominance ensures its future popularity.
- PostgreSQL and MongoDB will challenge MYSQL's dominance.
- MongoDB's popularity indicates the growing popularity of NoSQL databases.

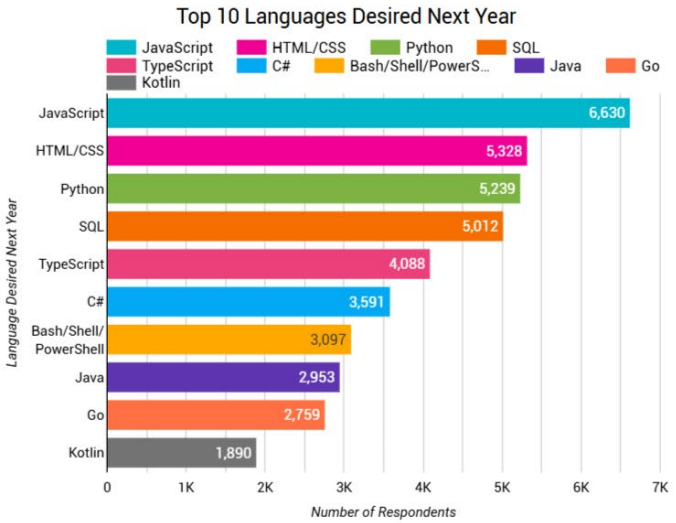
DASHBOARD

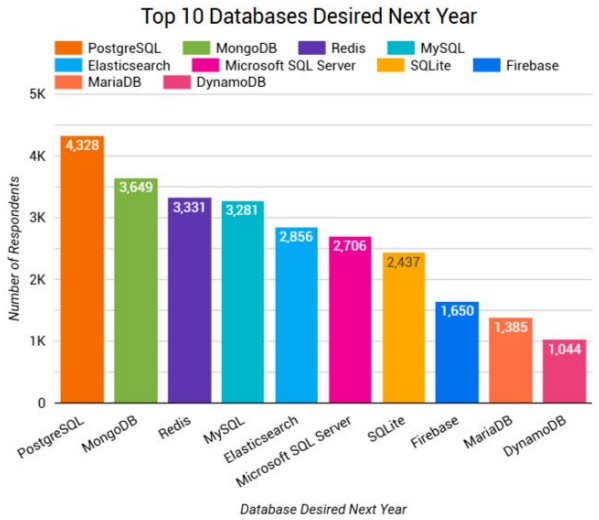
https://github.com/iceicelarry/IBM_Looker_Dashboard/blob/main/IBM_Looker_Dashboard.pdf

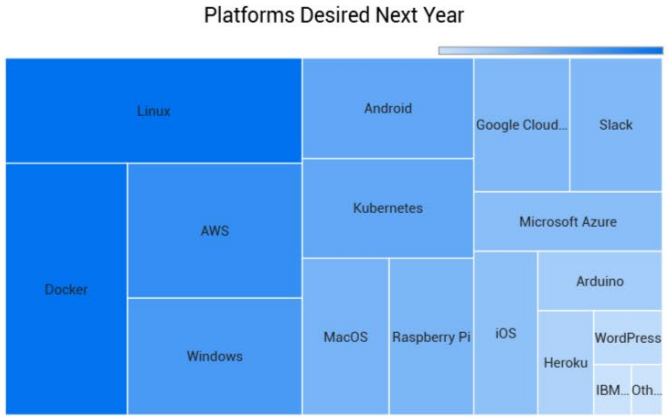
DASHBOARD TAB 1

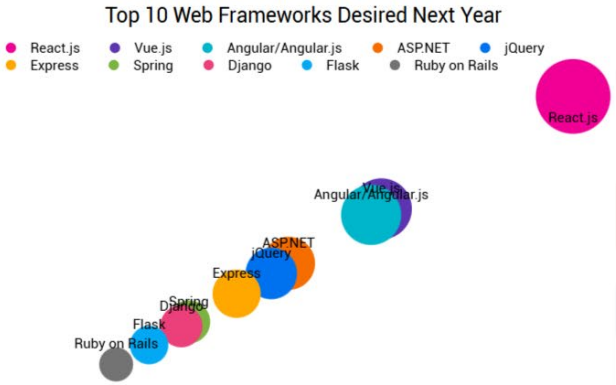


DASHBOARD TAB 2



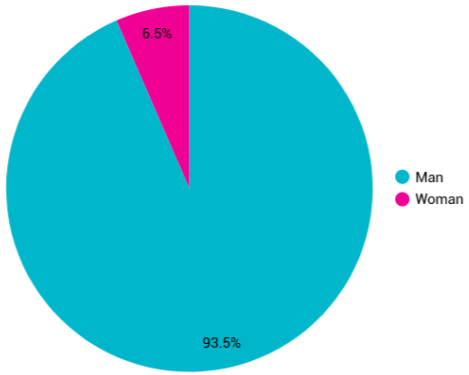




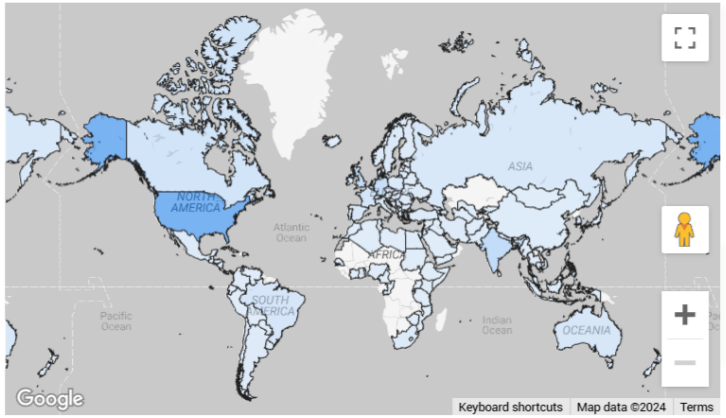


DASHBOARD TAB 3

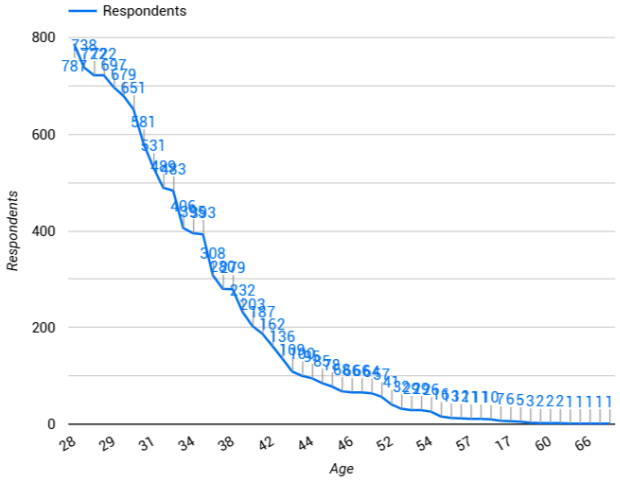
Respondents Classified by Gender



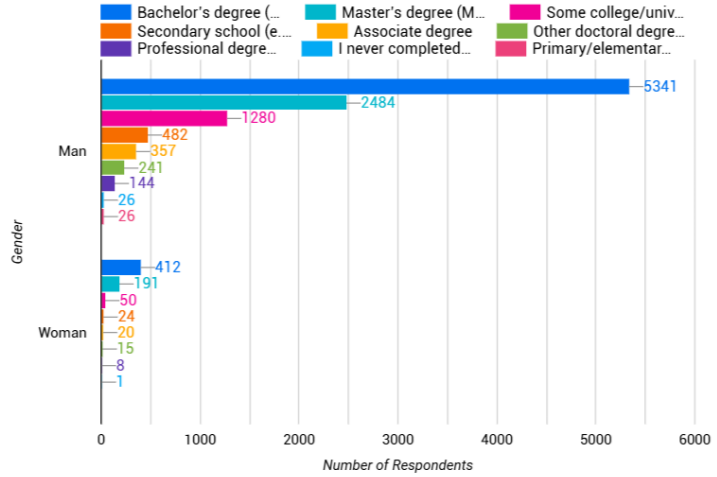
Respondent Count for Countries



Respondent Count by Age



Respondent Count by Gender (Classified by Formal Education Level)



IBM Developer

SKILLS NETWORK

DISCUSSION

- Why are we witnessing a shift to higher-level programming languages?
- Why are web programming languages dominant?
- Will NoSQL databases like MongoDB eventually become more popular than SQL alternatives?

OVERALL FINDINGS & IMPLICATIONS

Findings

- JavaScript is dominant since it is relevant in both frontend and backend development.
- MySQL and Microsoft SQL Server are widely used but not highly desired.
- Women make up 6.5% of developers.

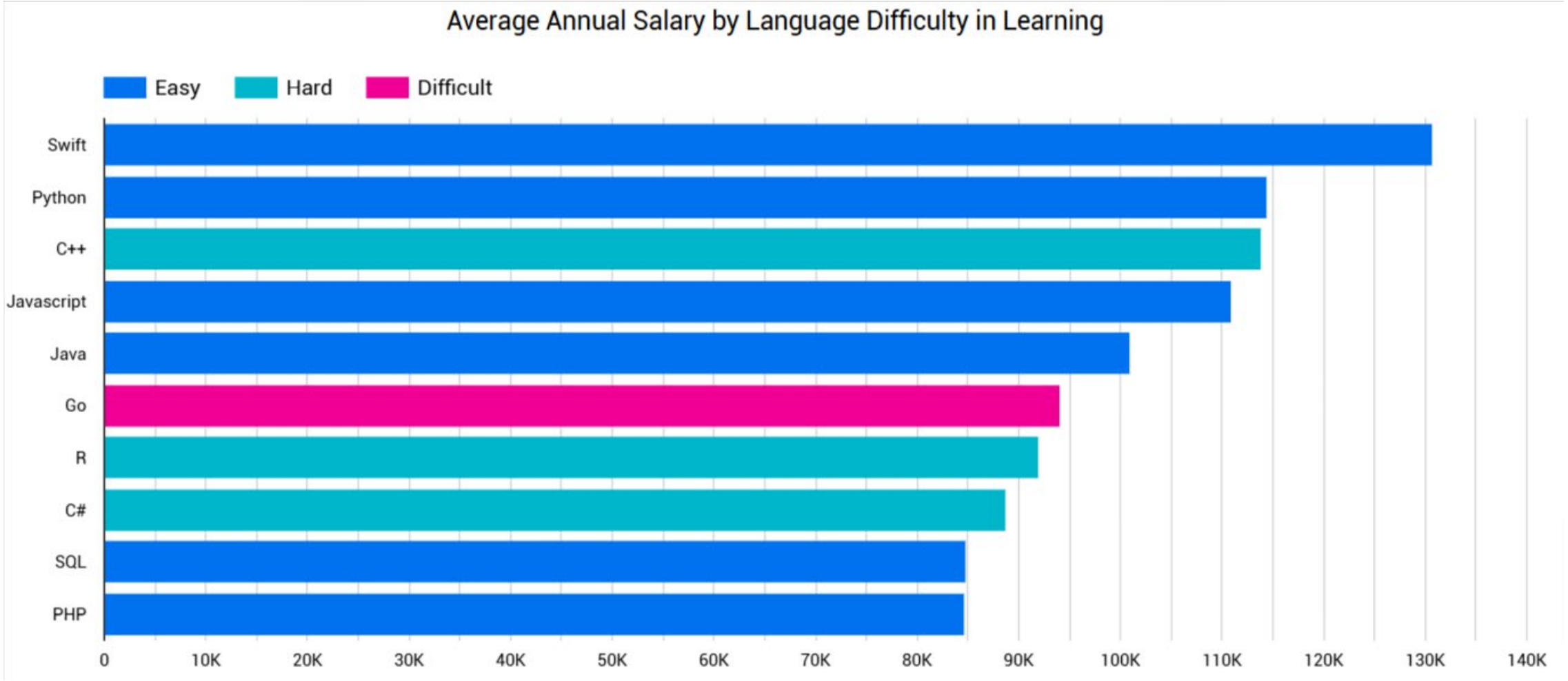
Implications

- Developers need to have a deep knowledge of JavaScript.
- PostgreSQL has a great opportunity to steal market share from legacy databases.
- Women should be encouraged to become developers.

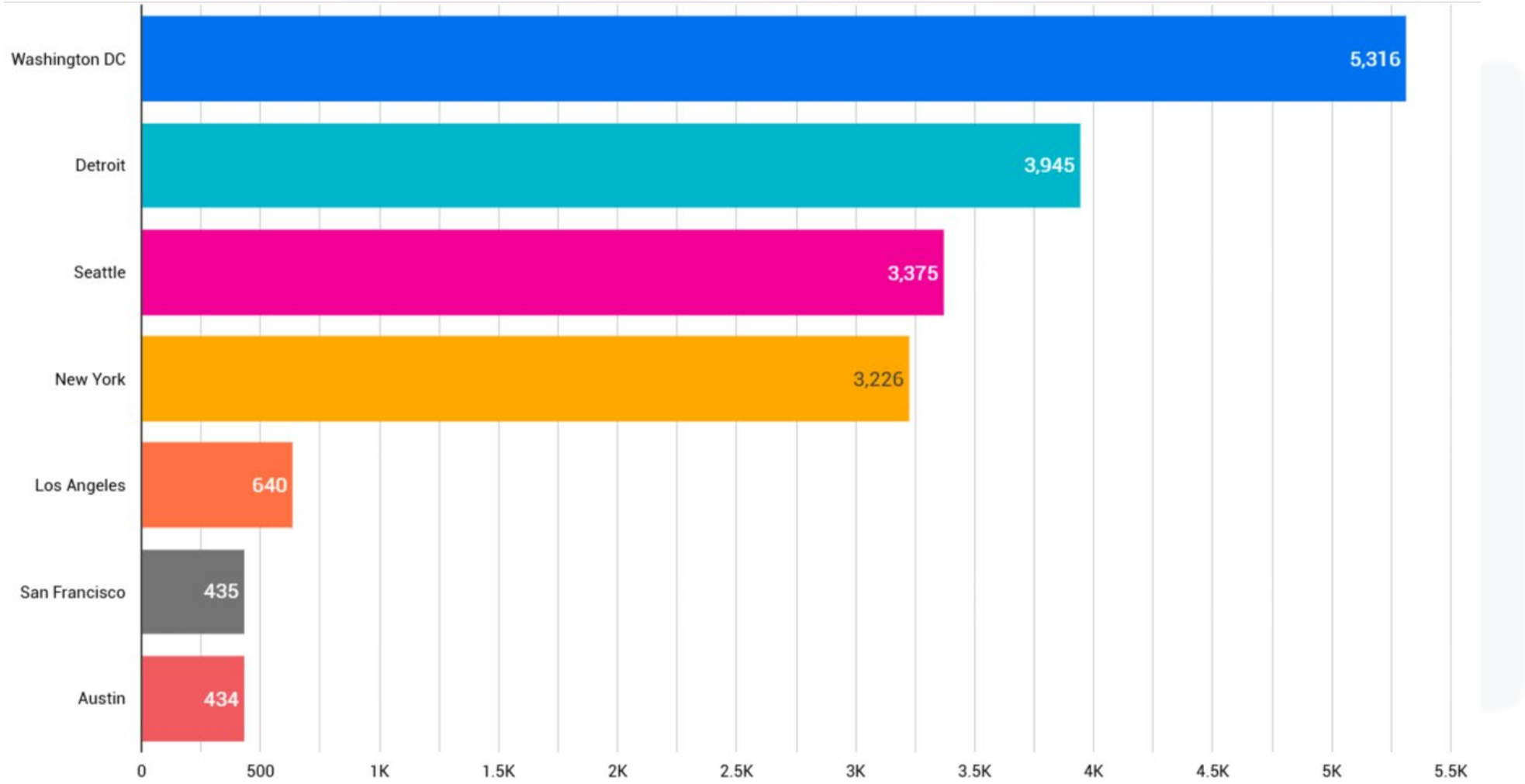
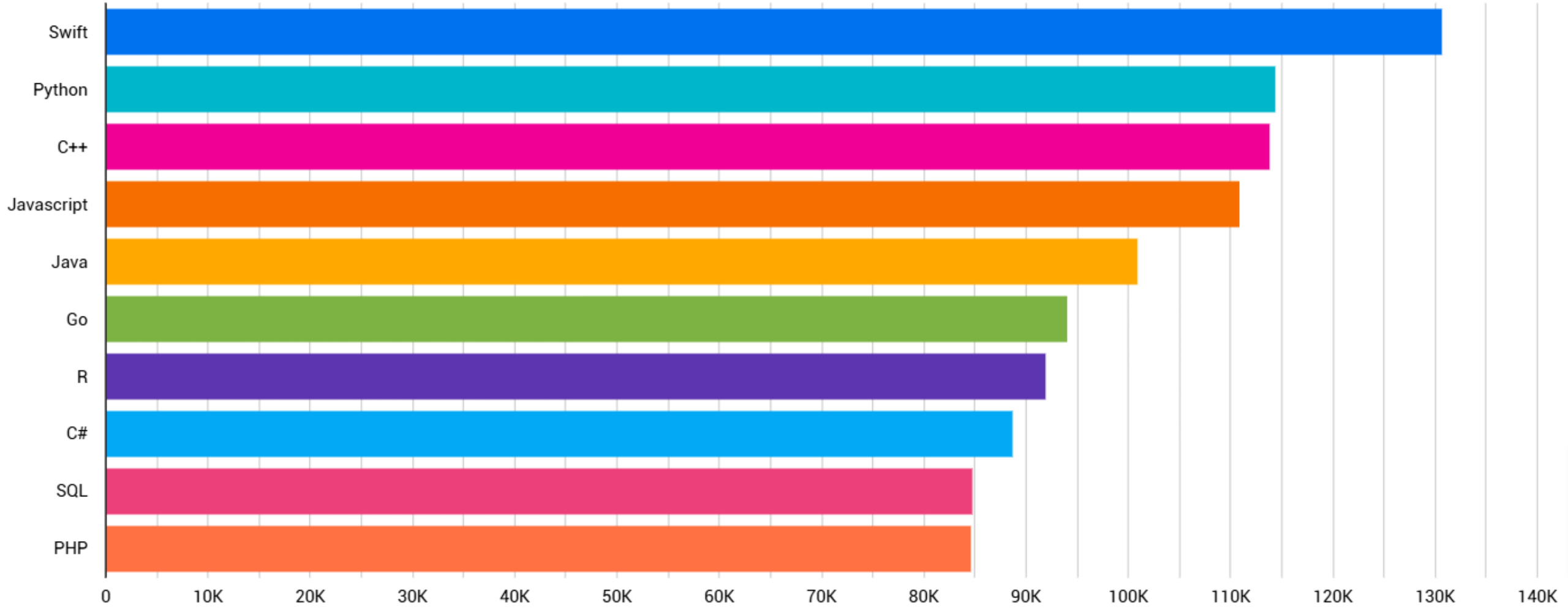
CONCLUSION

- Python and JavaScript are need to know languages.
- Having knowledge of the different flavors of SQL would be beneficial.
- Cloud technologies would be worth looking into the maintain your relevance.

APPENDIX


Average Annual Salary by Language Difficulty in Learning
Easy
Hard
Difficult
Swift
Python
C++
Javascript
Java
Go
R
C#
SQL
PHP
0
10K
20K
30K
40K
50K
60K
70K
80K
90K
100K
110K
120K
130K
140K

JOB POSTINGS



POPULAR LANGUAGES