Analysis on Current Technology Usage and Emerging Trends

MAY 29TH, 2021

OUTLINE

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EXECUTIVE SUMMARY

- In the fast-growing tech industry, nothing is more important than staying current with the emerging technology trends.

- In this report, data was pulled from various sources in order to identify the current technology trends.

- Implications and discussions on findings reflect possible emerging trends in the industry.

- Data-driven analysis with straightforward visualizations suggests insights on the programming languages and databases.

INTRODUCTION

- This report aims to provide the gist of what the data says about popular and desired programming languages and databases.

- Analysis on findings and implications follows for a further look into indications one should be aware of in order to keep on top of the industry trends.

- Current employers and employees in tech or anyone interested in tech would find this report helpful as they will be able to develop viewpoints based on data-driven visualizations and insights.
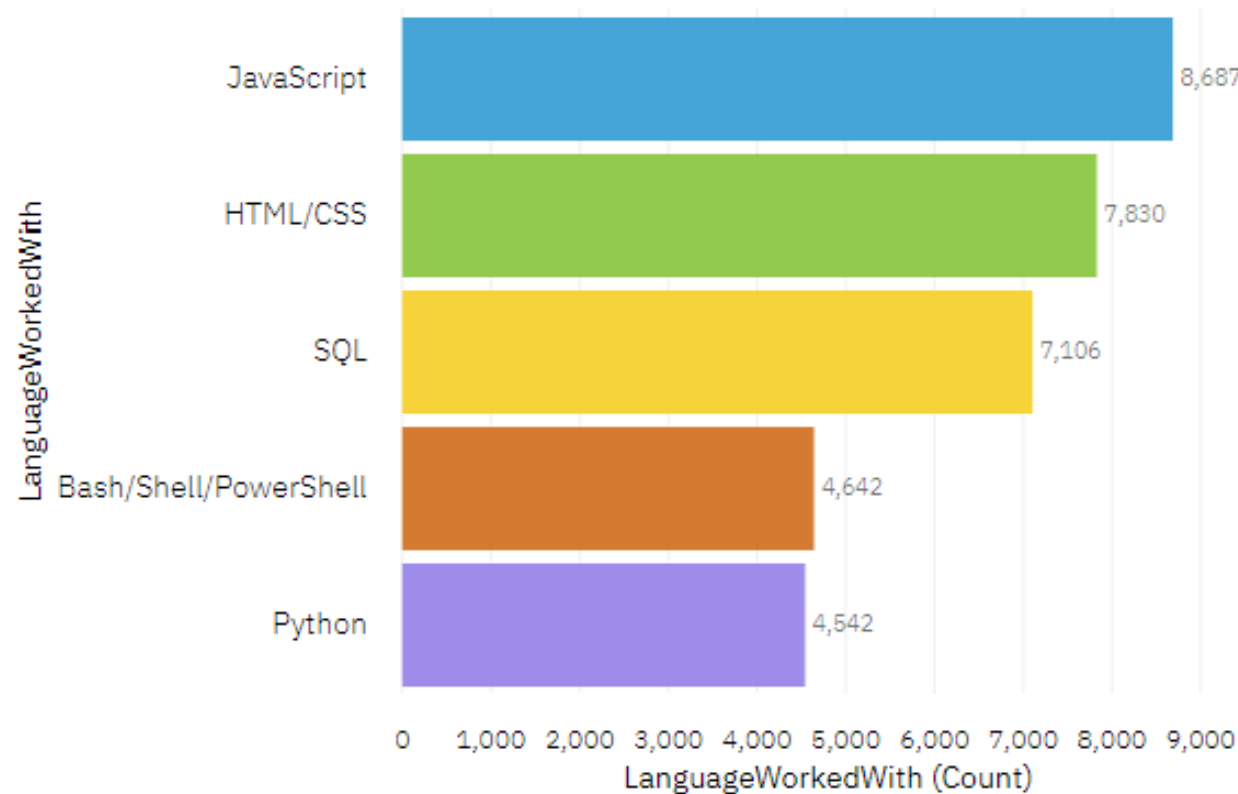
METHODOLOGY
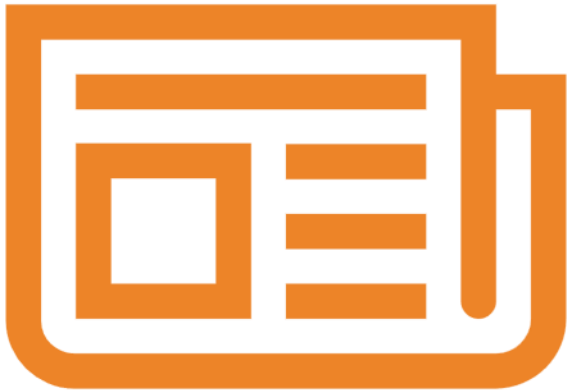
- Stack Overflow openly shares The 2019 Stack Overflow Developer Survey Results under a ODbL: Open Database License.

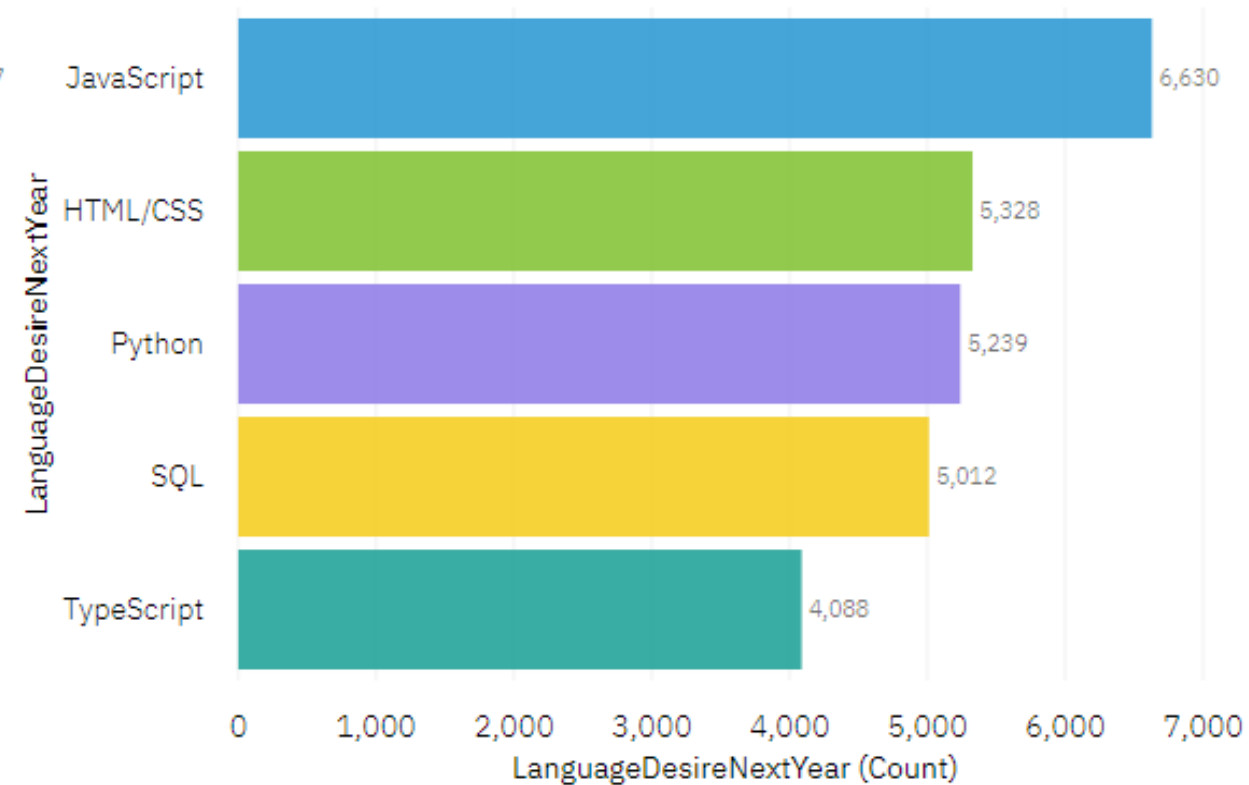- Data on GitHub job postings were collected using the GitHub Jobs API.

RESULTS

PROGRAMMING LANGUAGE TRENDS

Top 5 Languages of the Current Year

LanguageWorkedWith

Language	Count
JavaScript	8,687
HTML/CSS	7,830
SQL	7,106
Bash/Shell/PowerShell	4,642
Python	4,542

LanguageWorkedWith (Count)

Top 5 Languages Desired for the Next Year

LanguageDesireNextYear

Language	Count
JavaScript	6,630
HTML/CSS	5,328
Python	5,239
SQL	5,012
TypeScript	4,088

LanguageDesireNextYear (Count)

PROGRAMMING LANGUAGE TRENDS – FINDINGS & IMPLICATIONS

FINDINGS

- JavaScript and HTML/CSS stand as the 1st and 2nd most popular of the year respectively, as well as the most desired for the next year.

- Python places 5th most popular of the year but is 3rd in most desired for the coming year.

- SQL is the 3rd most popular of the year but is 5th most desired for the coming year.

- TypeScript didn't rank among the Top 5 in the current year, but places 5th desired for the next year.

IMPLICATIONS

- JavaScript, HTML/CSS, SQL and Python are deemed to be ones of the more popular languages in the following year as well.

- More developers are expected to learn Python and SQL.

- TypeScript is expected to gain popularity in the coming year.

DATABASE TRENDS

Top 5 Databases of the Current Year
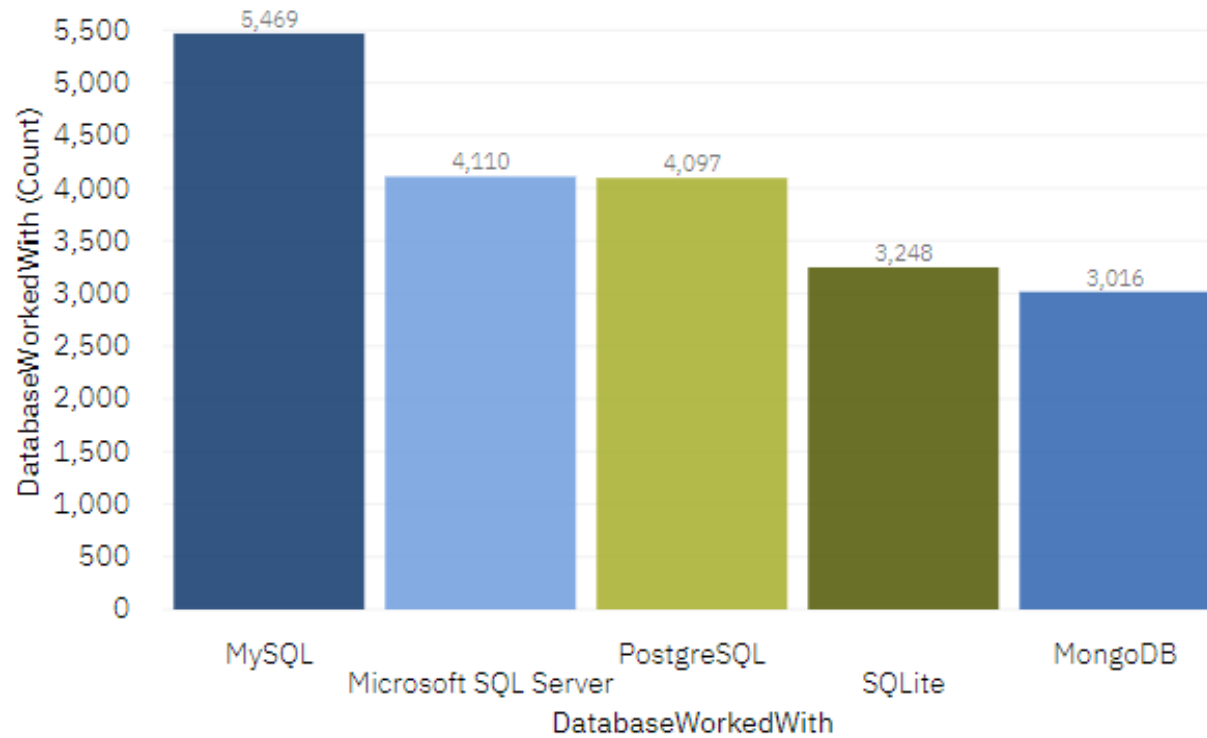
Top 5 Databases Desired for the Next Year
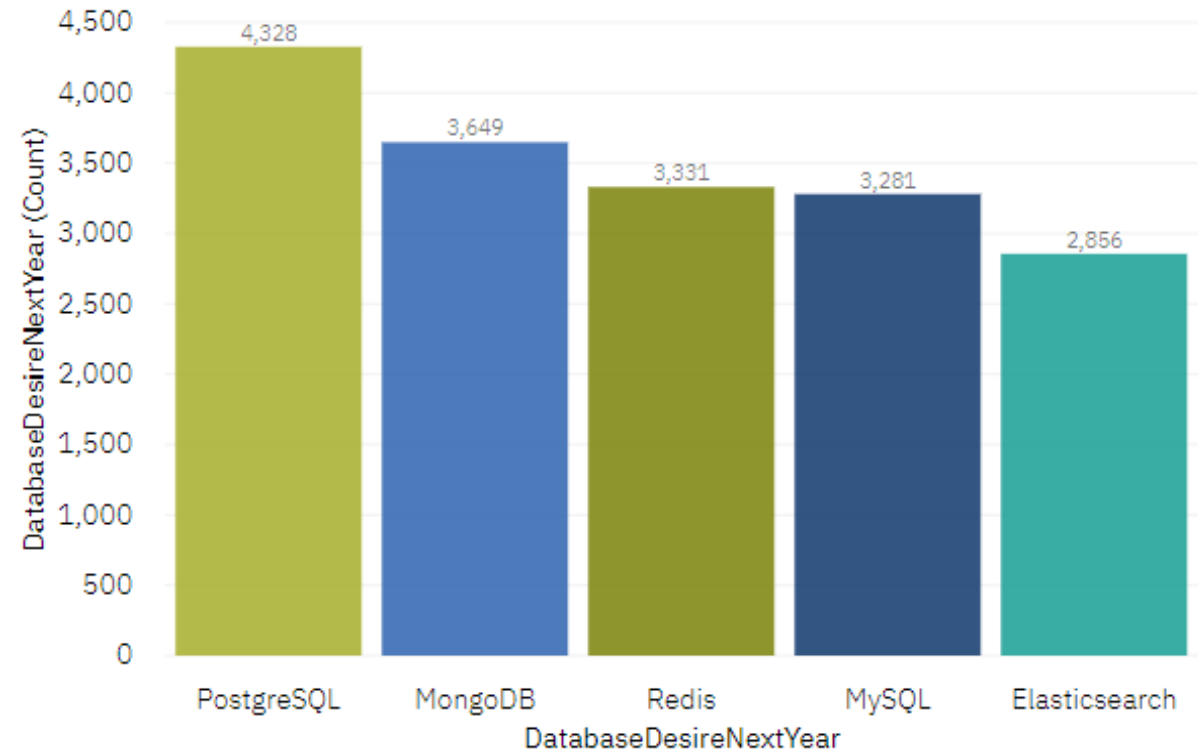
DATABASE TRENDS – FINDINGS & IMPLICATIONS

FINDINGS

- MySQL ranks 1st most popular of the year but places 4th desired for the next year.

- PostgreSQL places 3rd most popular and is the 1st most desired for the coming year.

- MongoDB is the 5th most popular, but 2nd most desired for the next year.

- Redis and Elasticsearch didn't rank among the Top 5 of current year, but ranks 3rd and 5th desired for the next year, respectively.

IMPLICATIONS

- MySQL, PostgreSQL and MongoDB are expected to remain strong among the top ranks in the following year as well.

- Not many developers want to learn Microsoft SQL Server and SQLite as other databases.

- Redis and Elasticsearch are expected to gain popularity in the coming year.

LINK TO COGNOS DASHBOARD

https://dataplatform.cloud.ibm.com/dashboards/053fa686-0a64-4d22-97b5-c726ddac0b8a/view/4121de0022aa13ce6ac1b1e4079979072c377109babb805788d47b495c637297a86f1390c82c4b58d3430760faee150a9c
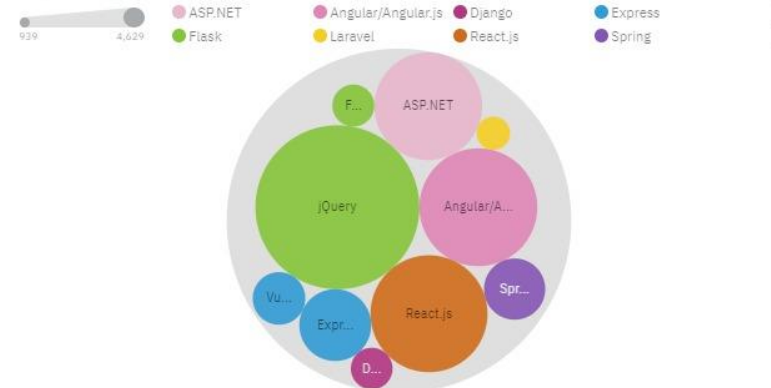
DASHBOARD TAB 1 – CURRENT TECHNOLOGY USAGE
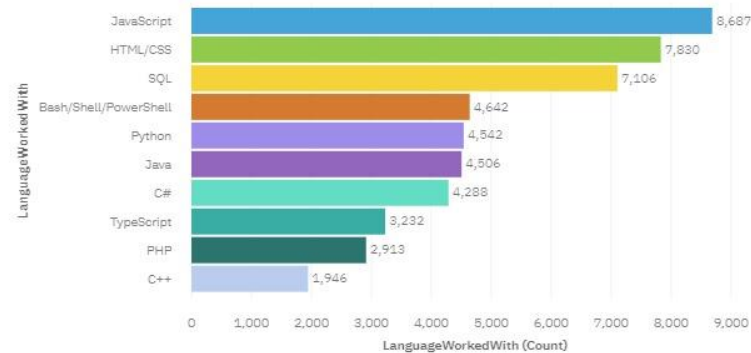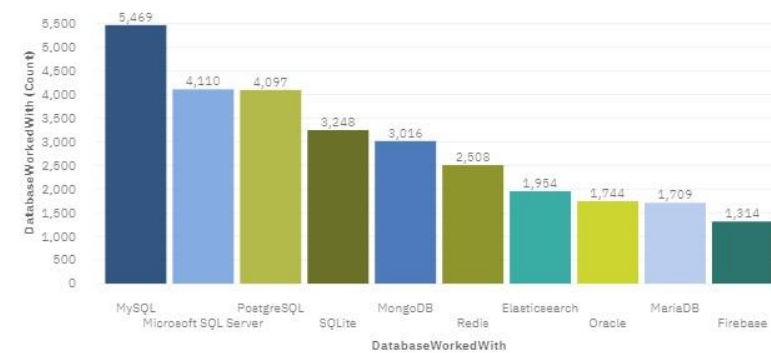
DASHBOARD TAB 2 – FUTURE TECHNOLOGY TREND
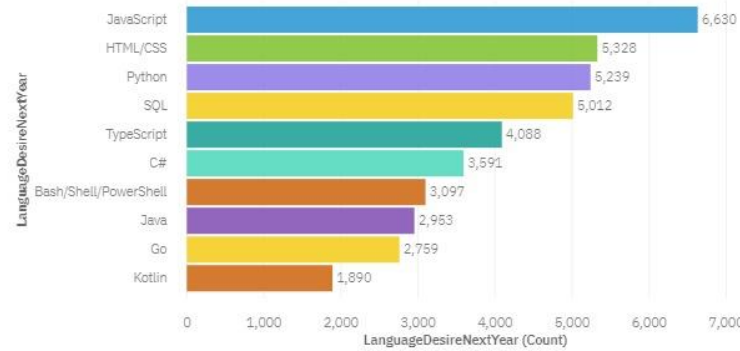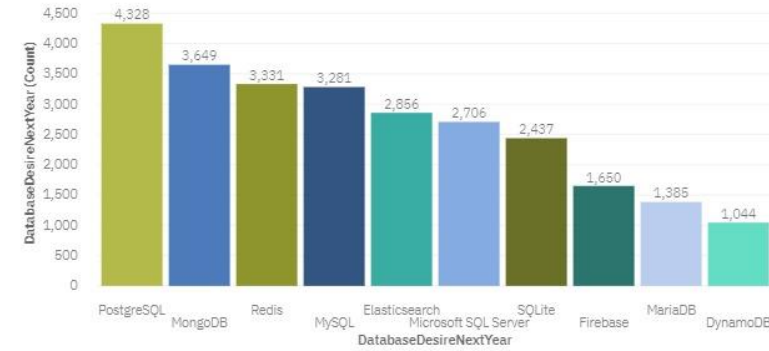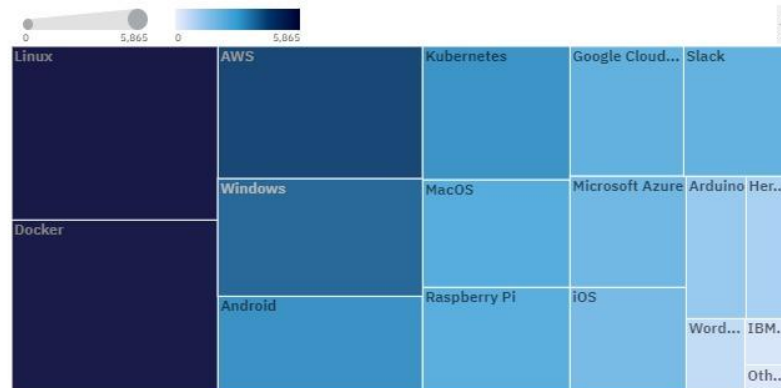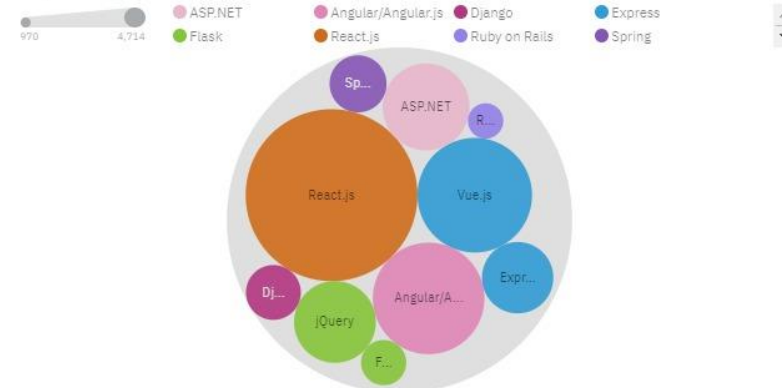
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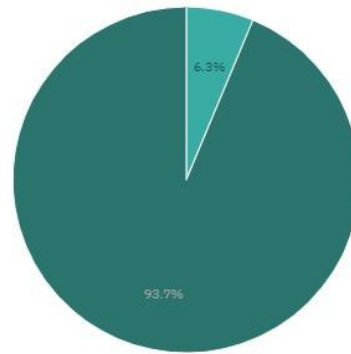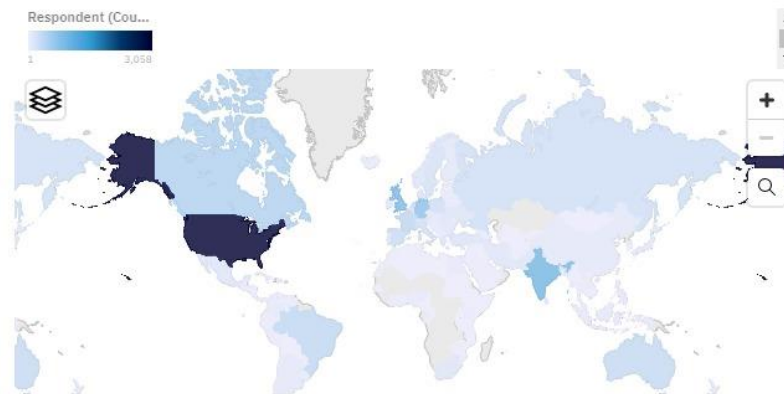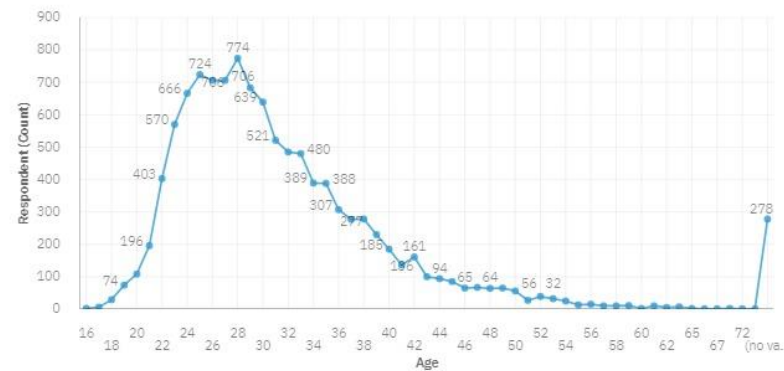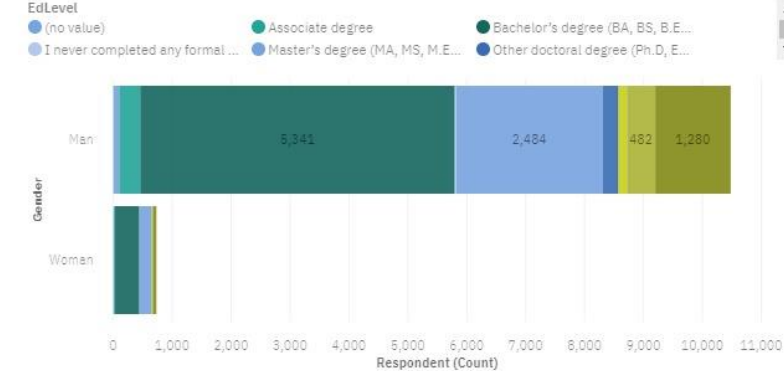
DISCUSSION

- Ranks do not suggest a language or database's capability/functionality as they hugely depend on the roles of developers and their proportions in the industry.

- Significant gap in gender and countries is observed. Diversity is one thing that is to be pursued in workplaces.

- Further observation would be needed for a more detailed analysis on demographics.

OVERALL FINDINGS & IMPLICATIONS

FINDINGS

- Data shows that JavaScript, HTML/CSS, SQL and Python top the ranks of both the popular and the desired languages.

- As for databases, MySQL, PostgreSQL, and MongoDB show steady popularity.

- TypeScript, Redis, Elasticsearch placed among the Top 5 most desired for the coming year.

IMPLICATIONS

- JavaScript, HTML/CSS, SQL, Python, MySQL, PostgreSQL, and MongoDB will be the leading technologies for the following year as well.

- Some technologies that will gain more popularity in the following year include TypeScript, Redis, and Elasticsearch.

CONCLUSION

- No major swift in technology trend is expected, making it obvious for tech newbies who want to join the crowd.

- For languages, JavaScript, HTML/CSS and Python will likely continue dominating.

- As for databases, MySQL, PostgreSQL, MongoDB will likely stay at the top of the rank.

- Some emerging technologies that many developers want to learn include TypeScript, Redis, and Elasticsearch.

APPENDIX

Data on salaries for programming languages and popular programming languages in the job market was also visualized for additional reference.

TOP PAYING PROGRAMMING LANGUAGES
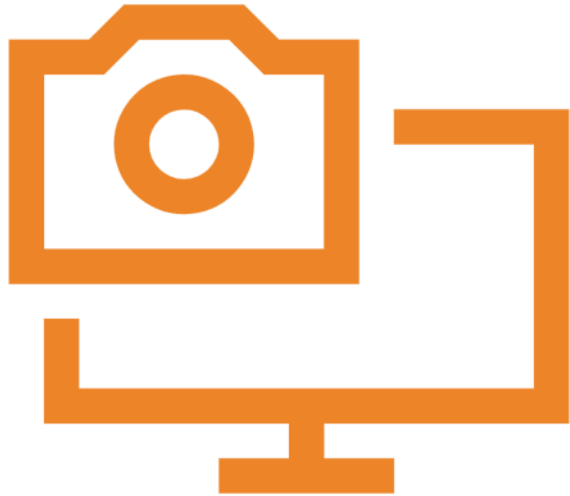
Top Paying Programming Languages
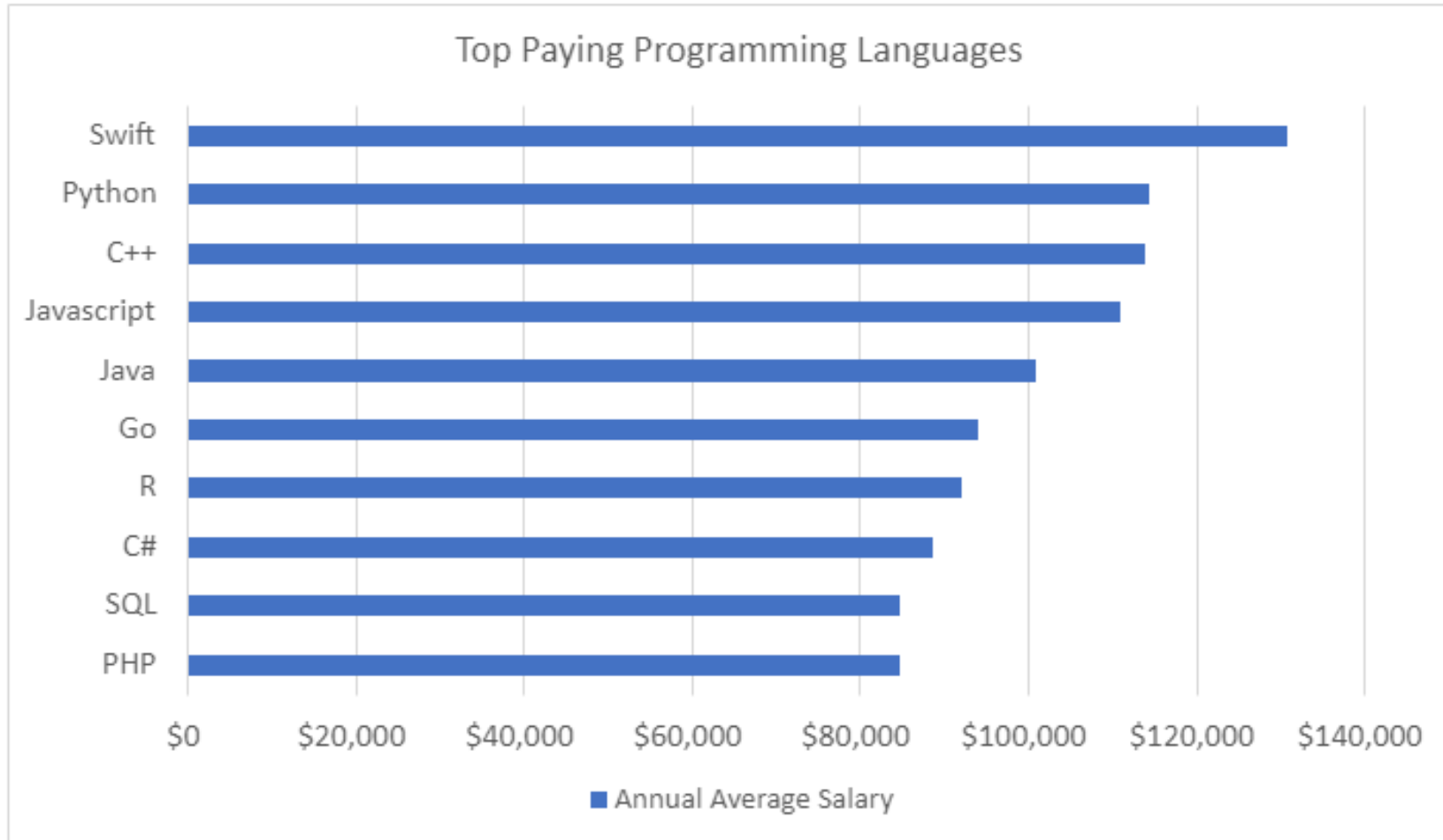
TOP PROGRAMMING LANGUAGES ON GITHUB JOBS