Developer Trends Analysis 2024

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EXECUTIVE SUMMARY

1. Current Technology Landscape in this year

Top10 Programming Languages: JavaScript, HTML/CSS, and SQL **...**
Top10 Databases: PostgreSQL , MySQL and Microsoft SQL ...
Top10 Platforms: Linux , Windows and Docker ...
Top10 Web Frameworks: jQuery React.js and Angular...

2. Future Technology Trends in next year

Top10 Languages in future: HTML/CSS, JavaScript, and Python...
Top10 Databases on the Rise: PostgreSQL, MongoDB, and Redis...
Top10 Platform Preferences: Linux, Docker, and AWS ...

3. Key Demographic Insights

Global Reach: United States, India, and the United Kingdom**.**

Data-Driven Insights: Further analysis incorporates demographics including age and Education Level.

INTRODUCTION

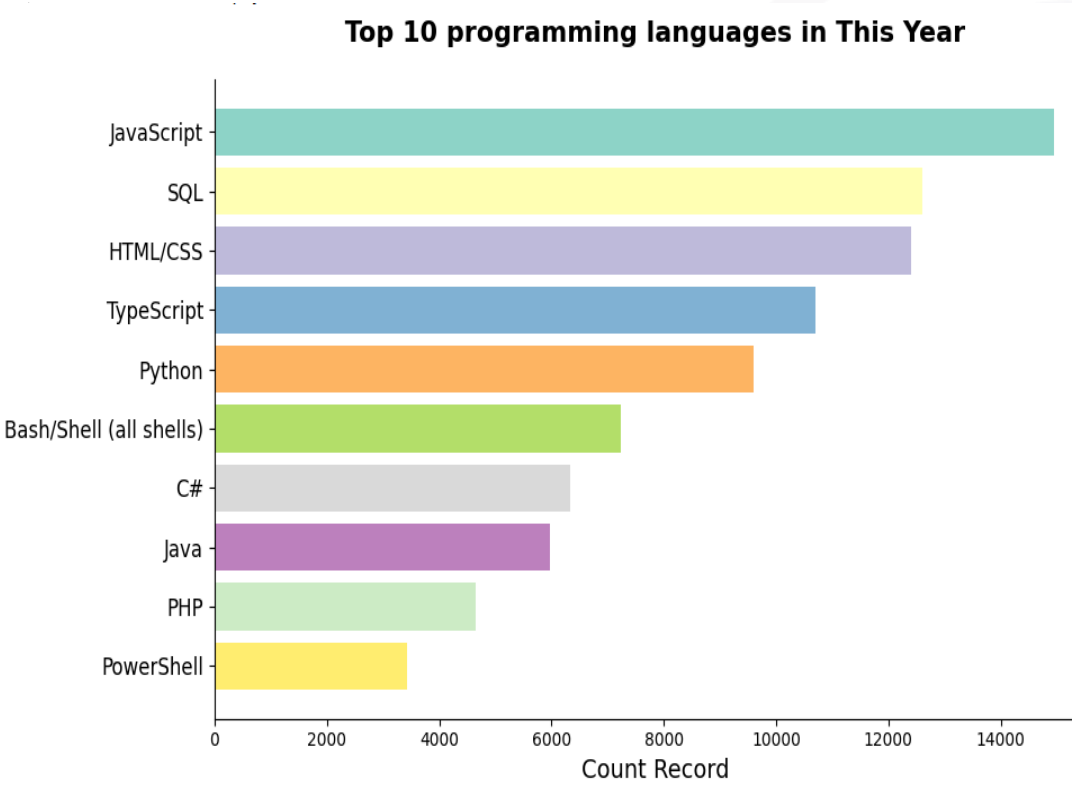
- This report provides a detailed analysis of the technologies currently shaping the developer landscape, identifying the most popular programming languages, databases, and platforms.
- It also forecasts future trends by revealing the tools and technologies developers are most eager to adopt in the coming year, providing a clear outlook for the industry's direction.
- Finally, a demographic analysis offers key insights into the global developer community, highlighting diversity and characteristics across different regions.

METHODOLOGY

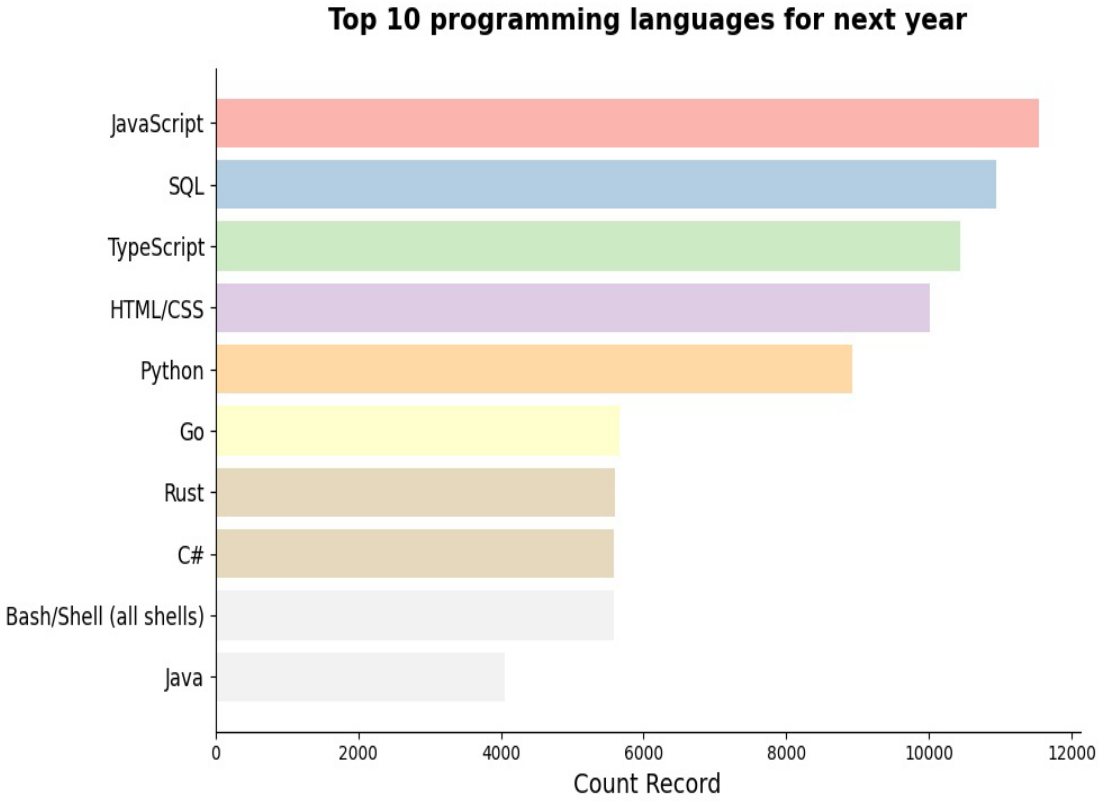
Data Source: this analysis is based on the Stack Overflow Annual Developer Survey dataset Survey_data_updated.cvs.
Collection Method: The data was collected via a Survey of opinions distributed to developers worldwide, capturing demographics, technology usage, work preferences, and compensation.
Key Wrangling Steps:
Data Loading & Inspection: The raw dataset was loaded and inspected for structure, missing values, and data types.
Column Filtering: columns for analysis were selected:Age , Adlev `LanguageHaveWorkedWith`, `DatabaseWantToWorkWith`,...)
Data Cleaning: First we have deleted Rows with missing and Duplicated data, and `separate` values in technology columns into individual items.
Aggregation & Analysis: Data was grouped and aggregated to calculate frequency counts, popularity rankings

PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

• JavaScript is the most in-demand and desired language. Across both graphs, JavaScript holds the top spot.

-Web development languages are still desired. Both graphs show HTML/CSS, SQL as in-demand languages..

• SQL is the third most popular programming language.

• Developer preferences are shifting. Java goes from third in the 1st graph to sixth in the 2nd graph. • Conversely, Python goes from seventh in the 1st graph to third (tied) in the 2nd graph

Implications

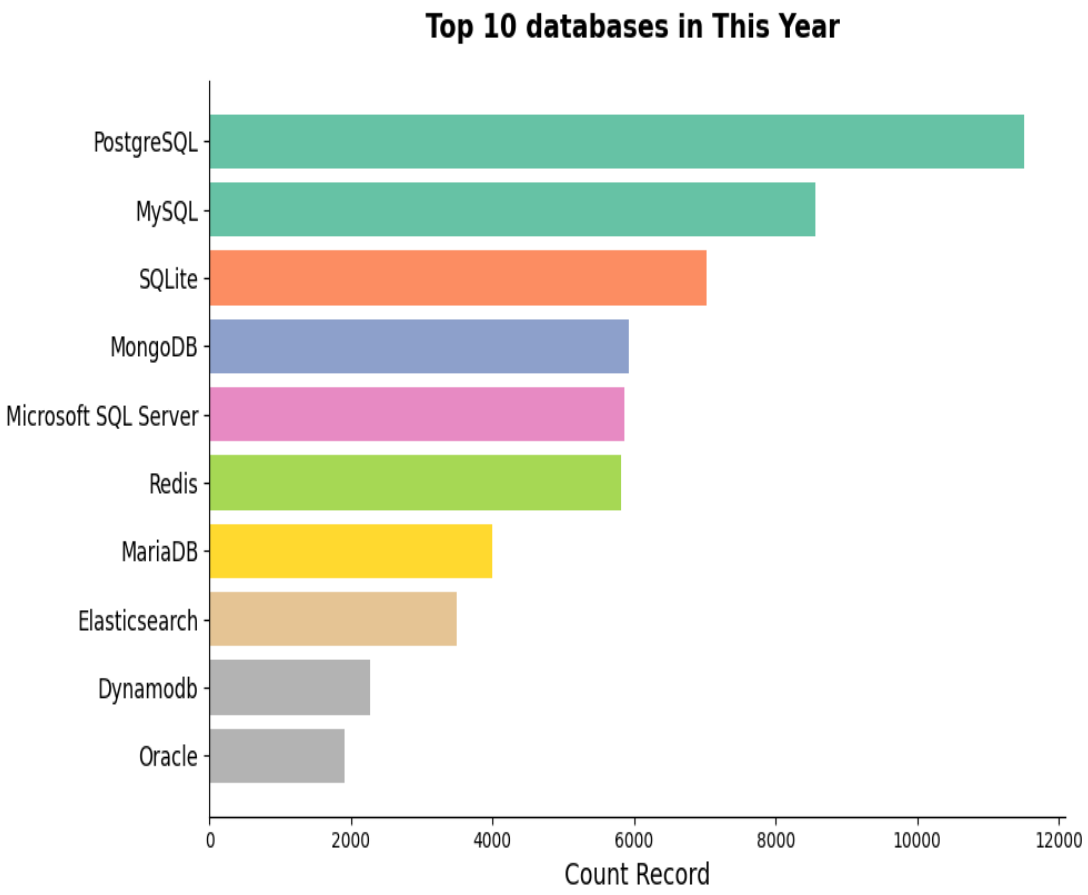
JavaScript skills are a safe bet for software development careers. JavaScript reigns supreme in both proficiency and desire in-use

• Full-stack developer skills are becoming increasingly important. The continued high demand for HTML/CSS, SQL alongside JavaScript suggests a growing need for developers who can handle both front-end and back-end development.

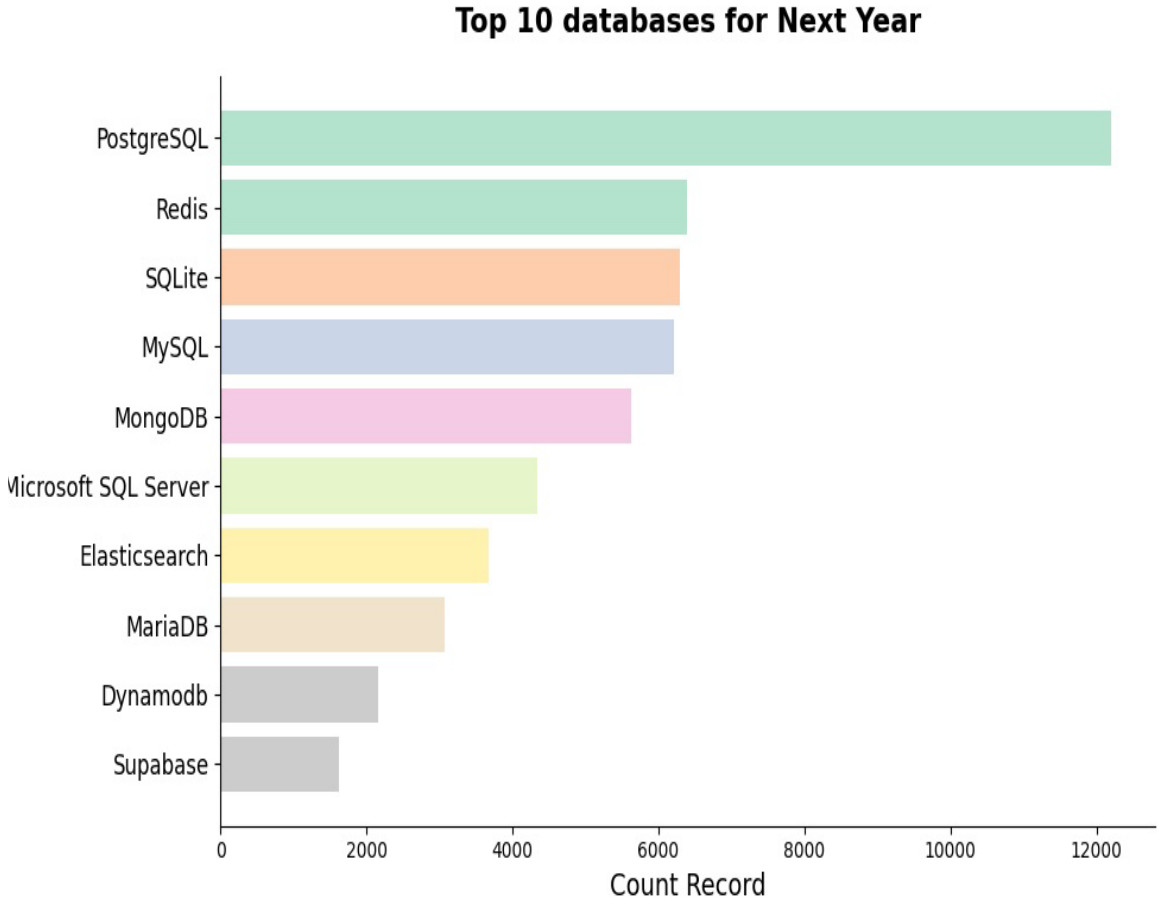
• The rise of Python reflects a growing data science field. Python's movement up the list suggests an increase in demand for data science skills

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

There is a shift in preference from traditional relational databases (MySQL, PostgreSQL) to NoSQL databases (Firebase, MongoDB, Redis).

- While MySQL is currently the most used database, it is not the most desired for next year.
- Firebase, which is not currently being used much, is the most desired database for next year.
- There is a decrease in desire to use currently popular databases like PostgreSQL, MySQL, and SQLite next year.

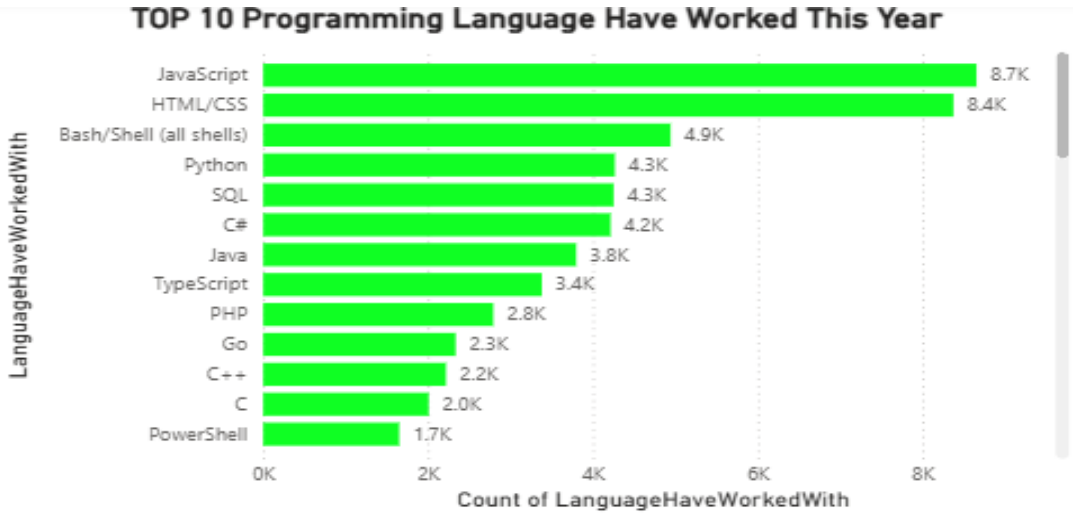
Implications

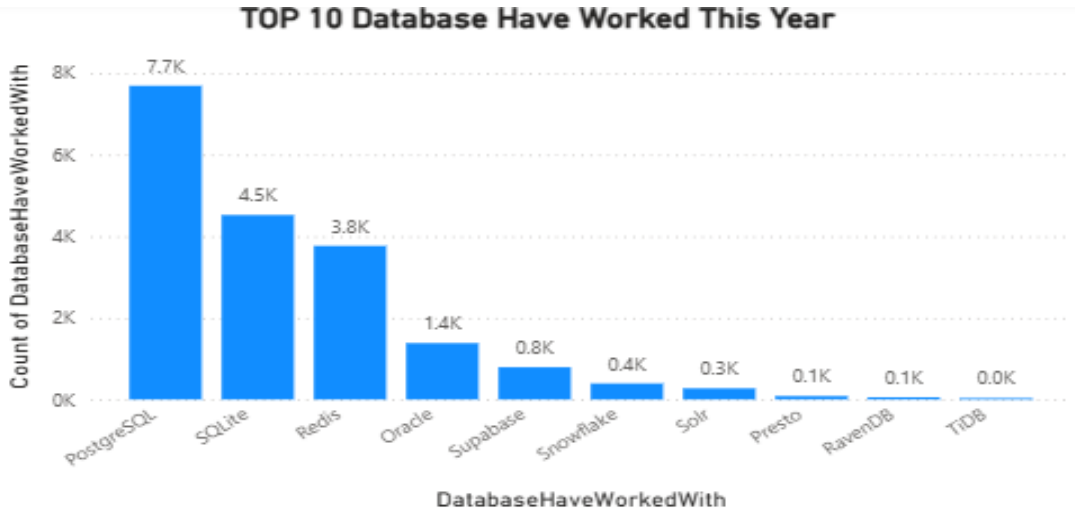
- This trend suggests a need for greater scalability and flexibility in data storage
- NoSQL databases may be better suited for handling the increasing complexity of data.
- Organizations may need to invest in training and resources to adopt NoSQL technologies.
- The decision of which type of database to use will depend on the specific needs of the project.

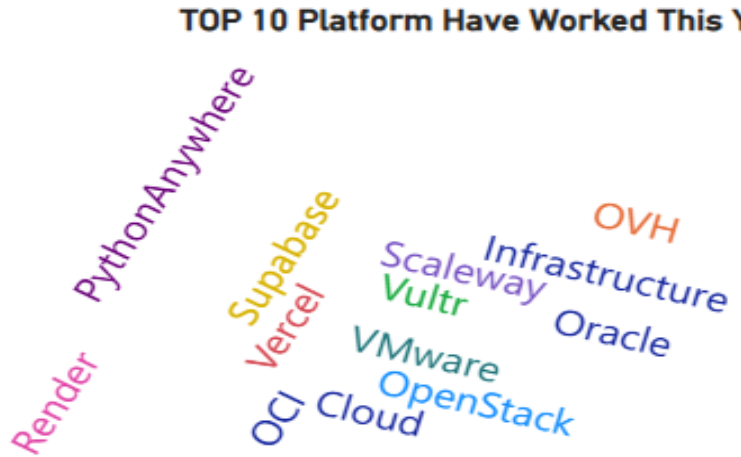
DASHBOARD

https://github.com/memonasser1234/-Muohamad_Afeef_Naser-Dashboard/blob/main/README.md

DASHBOARD TAB 1







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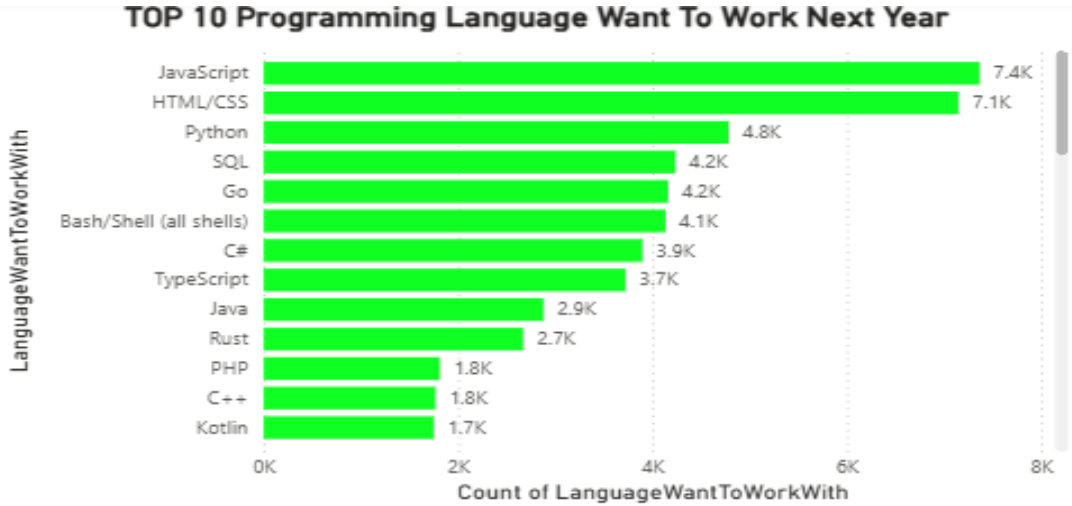
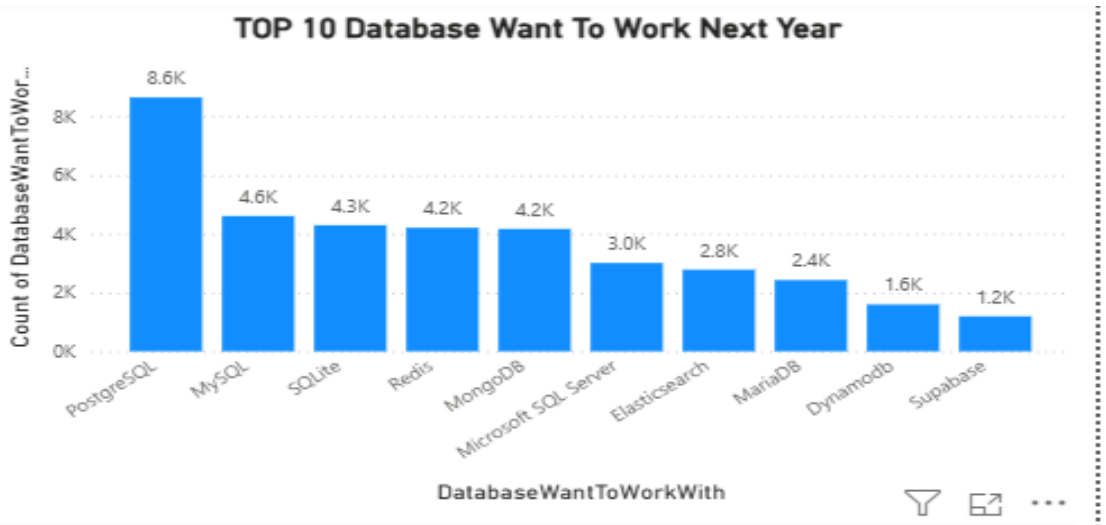
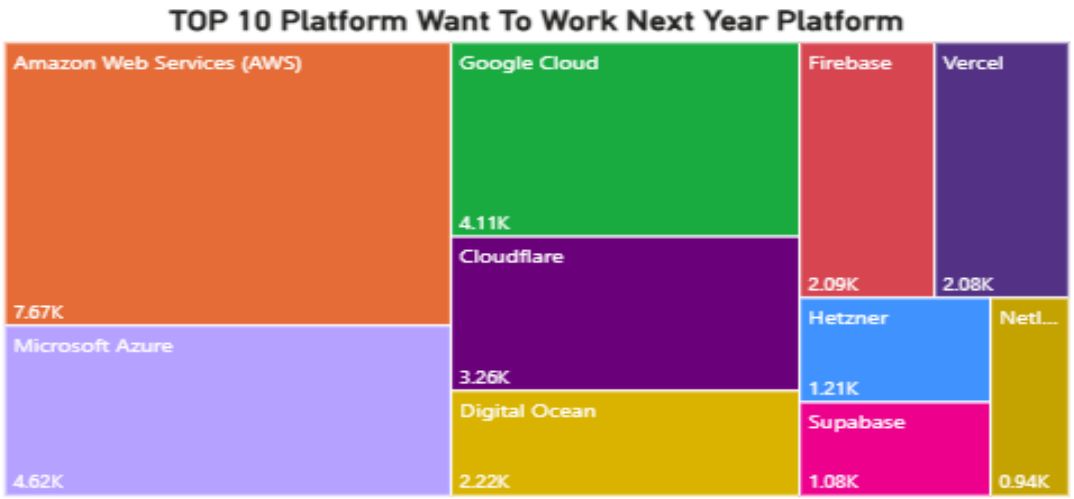
DASHBOARD TAB 2







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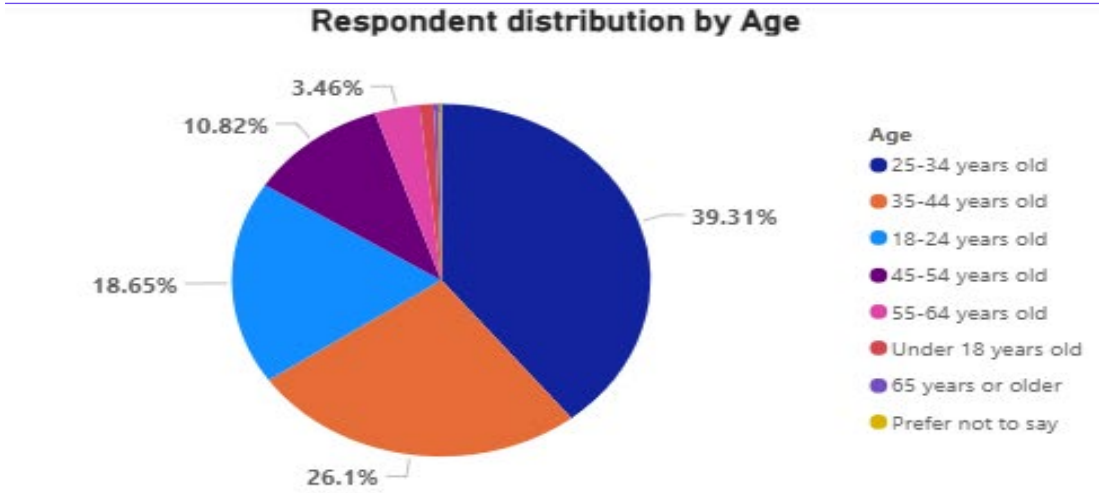
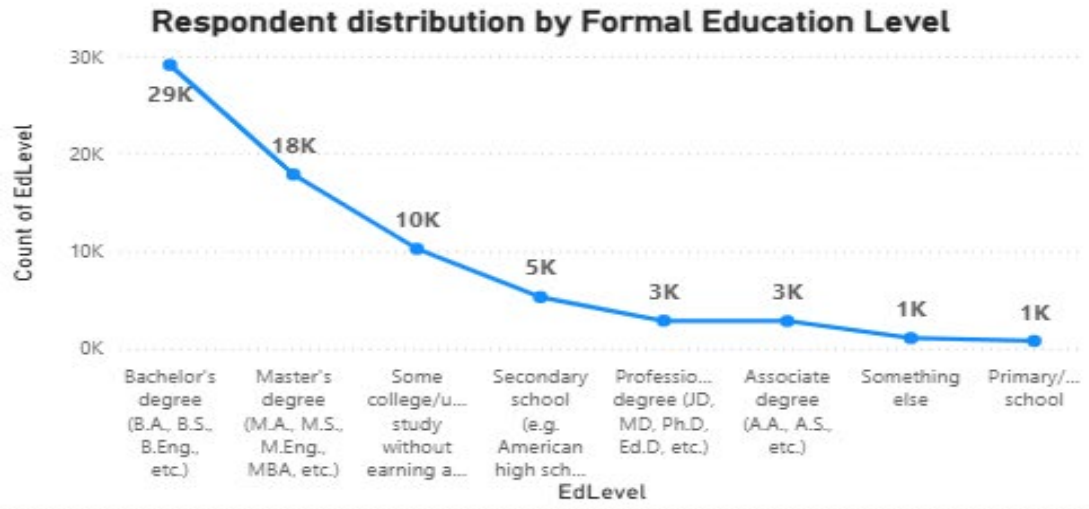
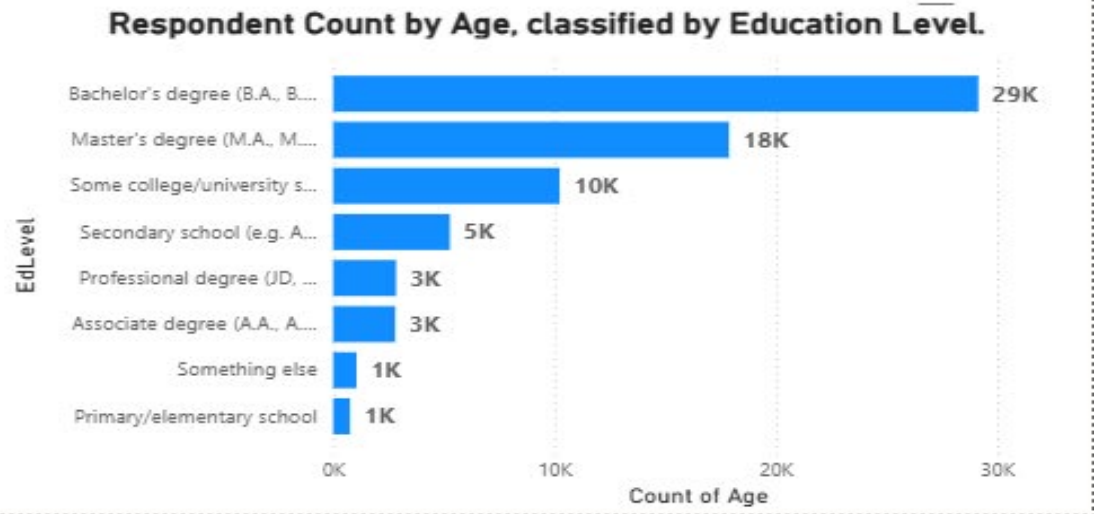






DISCUSSION

JavaScript remains the top, but the tide is shifting. While web development languages (HTML/CSS/SQL) hold strong, developer preferences are evolving. Python's rise reflects a growing data science field, suggesting a future with more data-driven roles.

- Overall, the findings suggest a move away from traditional relational databases towards NoSQL databases. This trend is likely being driven by the need for greater scalability and flexibility in data storage

OVERALL FINDINGS & IMPLICATIONS

Findings

JavaScript remins the top in the most demanded and desired language for software development.

• Web Development Strong: HTML/CSS and SQL continue to be extremely important for web development consistently ranking in the top few for both current use and desired languages.

• Shifting Preferences: Developer preference is shifting. Traditional languages such as Java and C are still widely used, yet their share is declining. The rise of Python shows interest in the area of data science.

Implications

Learing an asset, considering it is the most used and most desired language in the industry right now.

• Focus on Full-Stack Development: The high demand for HTML/CSS, SQL coupled with JavaScript reflects the increased need for developers capable of full-stack development.

• Demand for Data Science Skills: With the growing popularity of Python, more and more people need data science skills that are valuable in today's data-driven world.

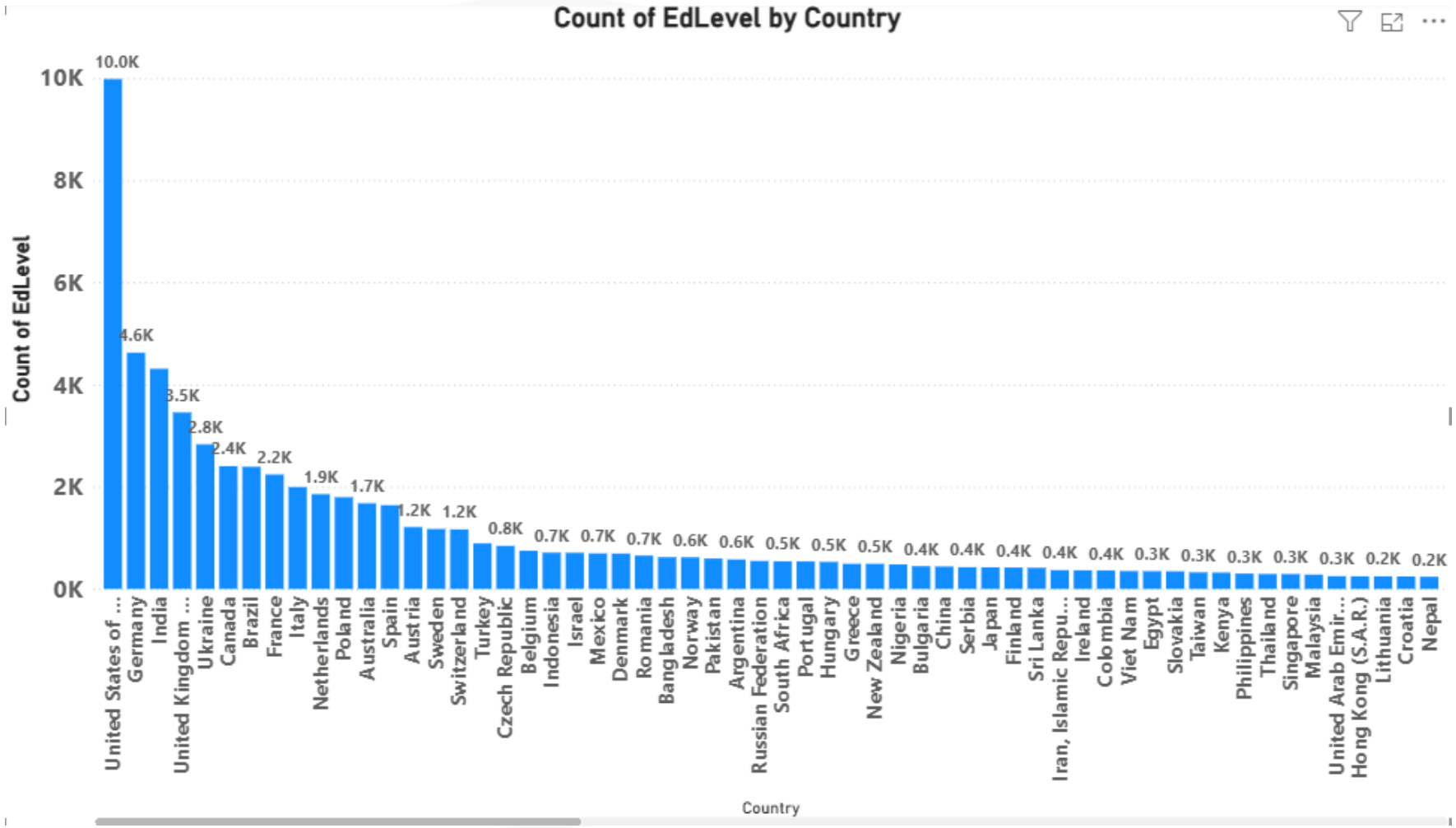
CONCLUSION

. we noticed that JavaScript remins the top in programming languages, while Developer preferences keep changing.

the uprising of Python and the movements of traditionally prominent languages like Java and C indicate the need to keep flexible and learn new technologies constantly.

- There's a growing demand for developers to bridge front-end and back-end development, coupled with data analysis.
- Popularity with Python reflects the ever-increasing importance of data science. Nowadays, more data is collected and used by businesses, creating a strong demand for developers who draw insights from the data

APPENDIX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New Zealand
Nigeria
Bulgaria
China
Serbia
Japan
Finland
Sri Lanka
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Slovakia
Taiwan
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Philippines
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Singapore
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United Arab Emir...
Hong Kong (S.A.R.)
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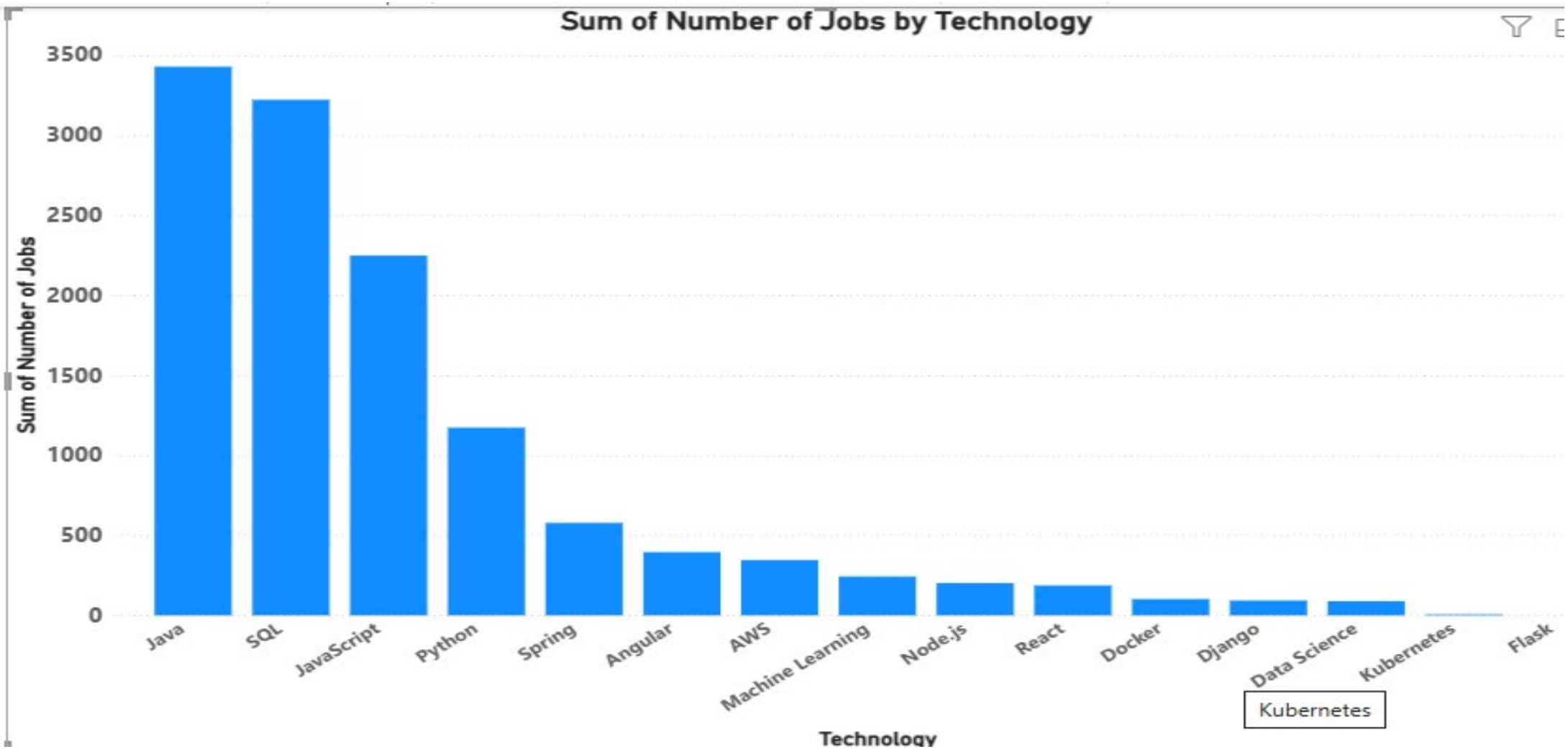
Croatia
Nepal
Country

JOB POSTINGS



POPULAR LANGUAGES