



TRENDING TECHNOLOGIES: STACK OVERFLOW DEVELOPER SURVEY

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EXECUTIVE SUMMARY



- **Most in-demand programming languages:**
JavaScript, HTML/CSS, SQL, Bash/Shell/PowerShell, Python
- **Top database skills sought after:**
MySQL, Microsoft SQL Server, PostgreSQL, SQLite, MongoDB
- **Popular platforms:**
Windows, Linux, Docker, AWS, Slack
- **Leading web frameworks:**
jQuery, Angular/Angular.js, React.js, ASP.NET, Express
- **Future technology trends:**
 - Python ranks third, followed by SQL and TypeScript.
 - Redis and Elasticsearch also make the Top 5.
 - Android is among the Top 5 in-demand platforms, while the others remain the same.
 - React.js takes the top spot, with Vue.js being the newest addition at the bottom.

INTRODUCTION



- **Rapid Change:** The tech landscape evolves quickly, with new trends emerging annually.
- **Job Market Demand:** Employers seek developers skilled in popular languages and frameworks identified in surveys, like JavaScript and Python.
- **Informed Choices:** Understanding current trends, such as those from the Stack Overflow survey, aids in selecting effective tech stacks.
- **Better Solutions:** Updating skills enhances problem-solving capabilities and code quality.
- **Community Learning:** Engaging with platforms like Stack Overflow promotes knowledge sharing.
- **Relevance:** Continuous learning ensures developers remain competitive in a dynamic industry.
- **Survey.** The survey provides important information to understand how the world of programming is developing, so we will now share the results obtained.

METHODOLOGY



- **Data Collection.** We collected the necessary data to conduct the statistical analysis.
- **Data Wrangling.** The database was cleaned to ensure data quality.
- **Exploratory Data Analysis.** An EDA was performed to gain insights from the data.
- **Data Visualization.** To appreciate the characteristics of the database, various graphs were considered.
- **Building a Dashboard.** Graphic material was prepared to share the findings discovered.

RESULTS



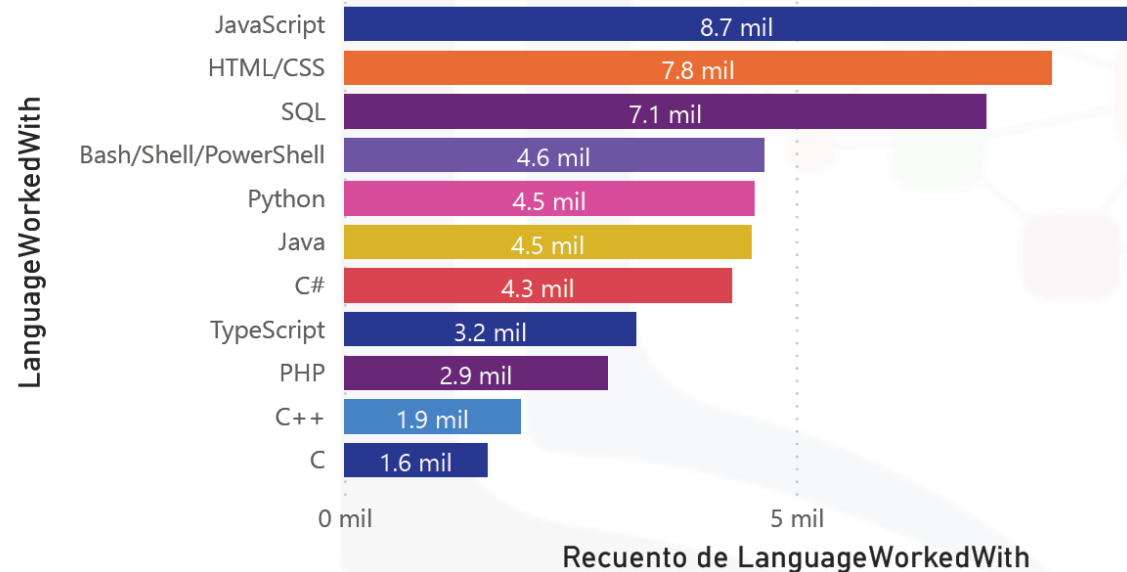
- **JavaScript's Dominance:** JavaScript continues to lead as the primary programming language, while Python is gaining traction and popularity among developers.
- **Rising Database Technologies:** PostgreSQL is becoming increasingly favored among programmers, emerging as the most desired database language to learn. Additionally, MongoDB is gaining popularity, especially due to its benefits in implementing deep learning with unstructured data.
- **Youthful Workforce:** Most programmers are young and often lack advanced degrees, yet they are actively learning and working in the field. This indicates significant opportunities for growth in the programming domain.
- **Gender Demographics:** About 90% of respondents are men, but there's higher female representation among students than professional developers in regions like the US, India, and the UK.

PROGRAMMING LANGUAGE TRENDS

Current Year

Languages more used

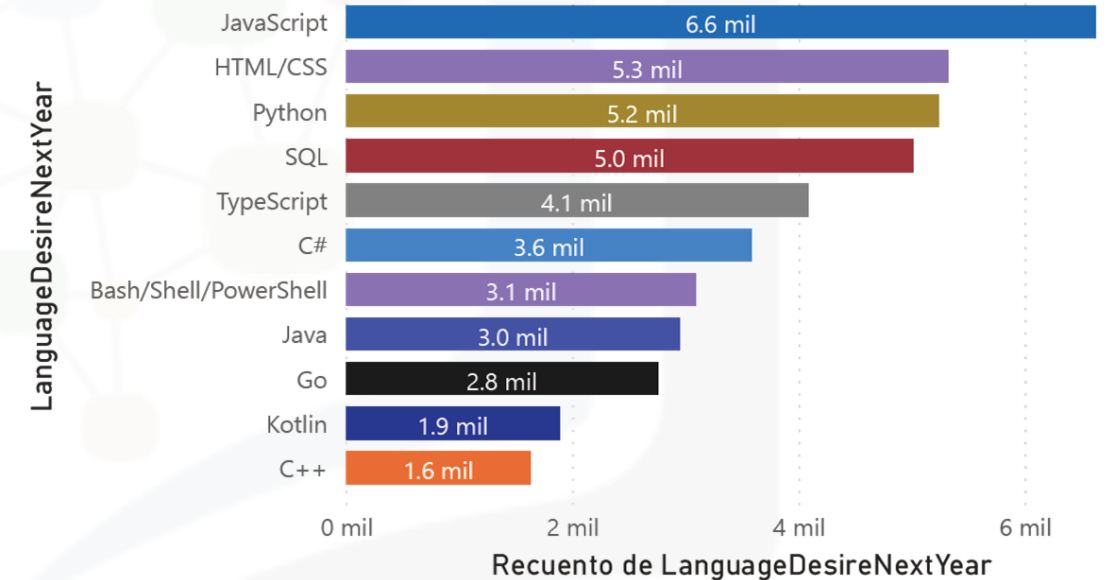
LanguageWorkedWith ● JavaScript ● HTML/CSS ● SQL ● Bash/Shell/Po... ● Python ● Java



Next Year

Languages desire next year

LanguageDesireNextYear... ● JavaScript ● HTML/CSS ● Python ● SQL ● TypeScript ● C#



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

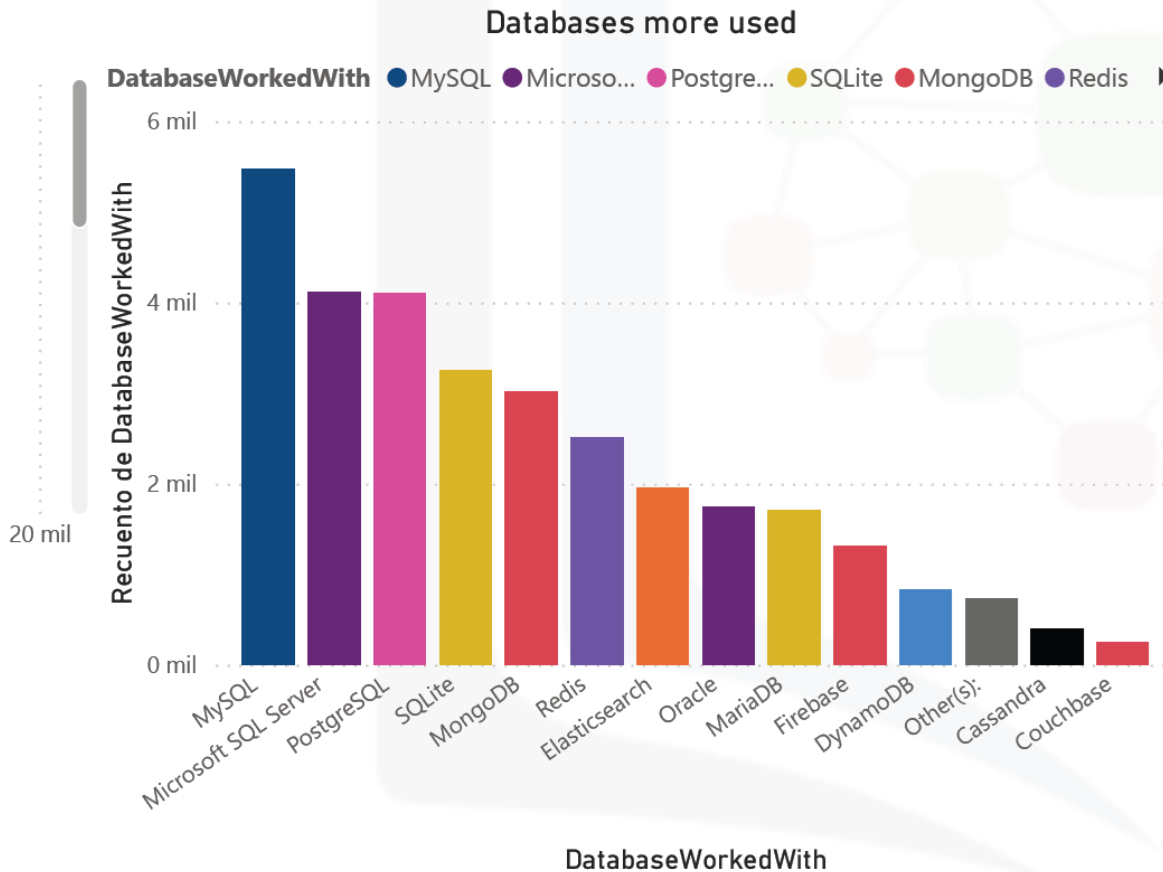
- **JavaScript's Continued Demand:** JavaScript remains the most sought-after programming language, maintaining its leading position in the industry.
- **Python's Rising Popularity:** Python has gained popularity over time and is positioned as a potential future programming language.
- **Importance of SQL:** SQL has proven to be an important language, while other languages have remained stable over the years.

Implications

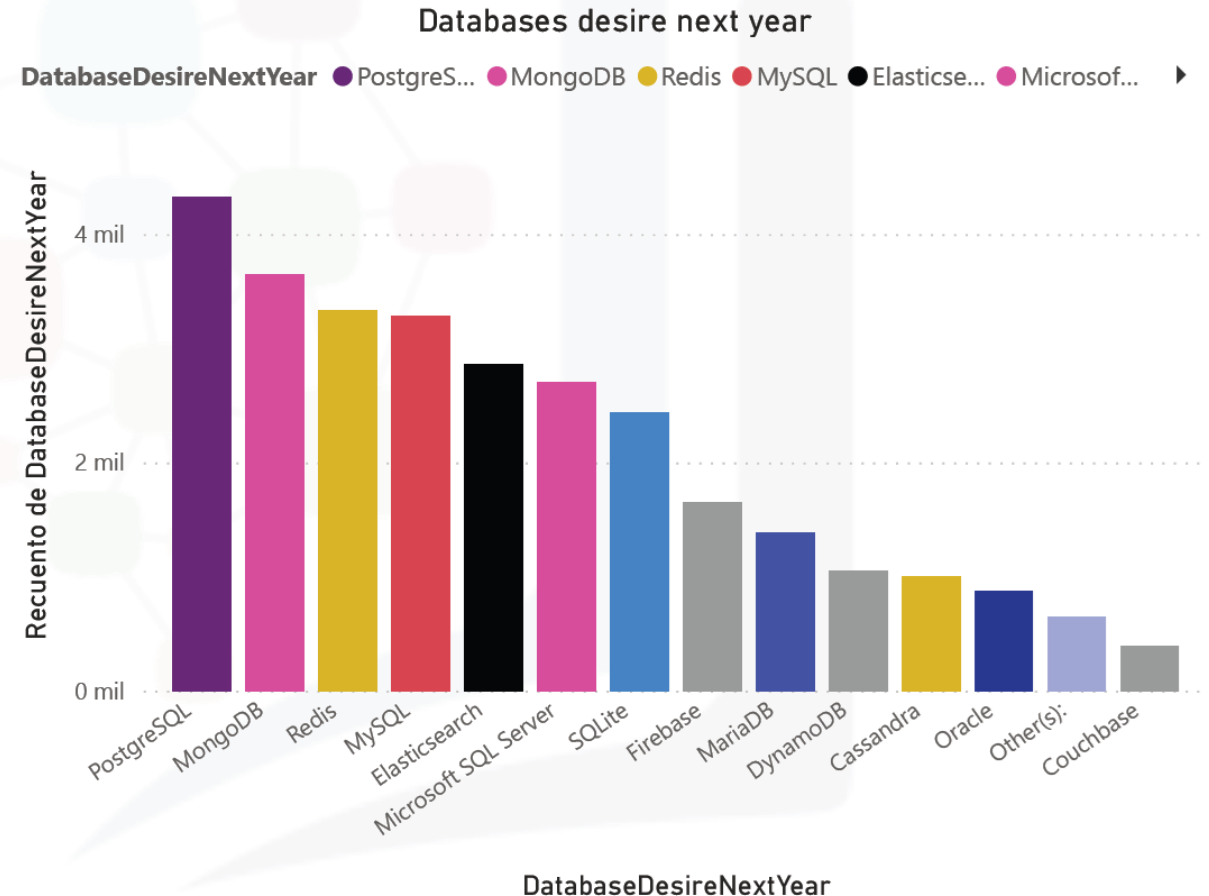
- **JavaScript's Dominance:** JavaScript remains essential for web development, ensuring high demand for skilled developers.
- **Rising Popularity of Python:** Python's versatility in data science and automation positions it as a key language for the future.
- **Enduring Importance of SQL:** SQL's consistent relevance highlights the ongoing need for effective data management in organizations.
- **Stability of Other Languages:** The stability of established languages allows developers to focus on deepening their expertise without the pressure to constantly adopt new languages.

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- **Decline of MySQL:** MySQL is losing popularity as developers increasingly seek to learn databases like PostgreSQL and MongoDB.
- **Adapting to Industry Needs:** It is crucial for programmers to adapt to current trends and employ tools that meet industry demands.
- **Rising Interest in Redis:** Redis is gaining popularity, highlighting the importance of acquiring a broad knowledge base in various database technologies.

Implications

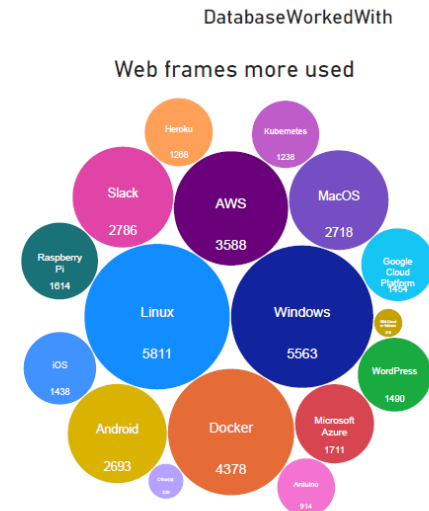
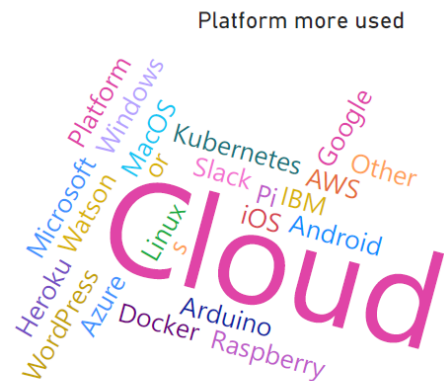
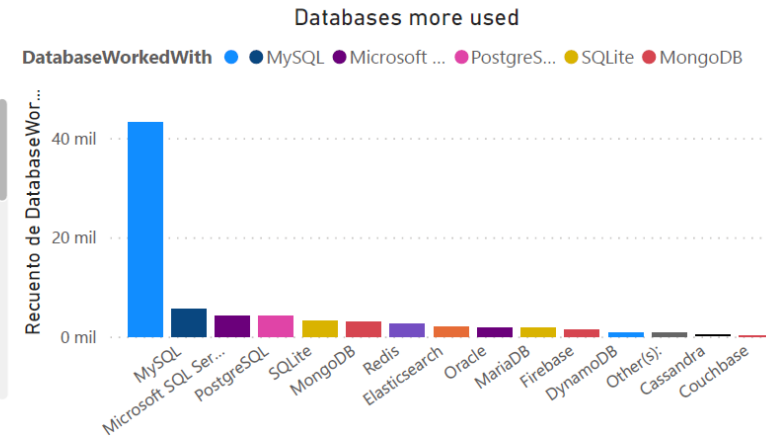
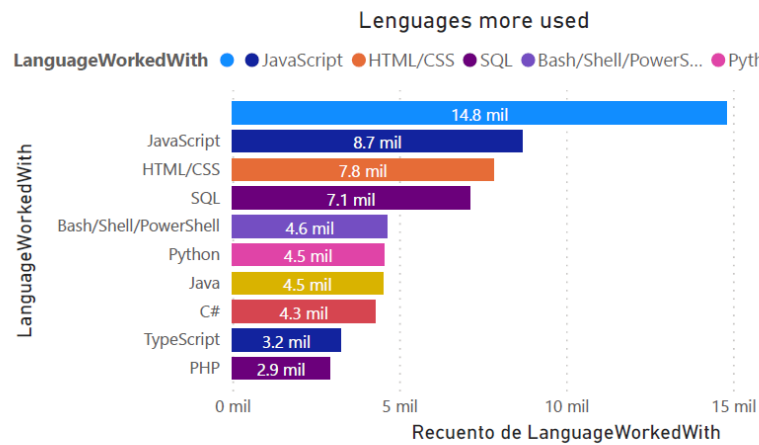
- **Shift in Learning Priorities:** As MySQL declines in popularity, developers may need to prioritize learning PostgreSQL and MongoDB to remain competitive in the job market.
- **Responsiveness to Market Trends:** The need for adaptability underscores the importance of continuous learning, enabling developers to leverage tools that align with evolving industry requirements.
- **Broader Skill Sets:** The rising interest in Redis and other emerging technologies suggests that having a diverse skill set will be essential for developers to tackle a variety of data management challenges effectively.

DASHBOARD

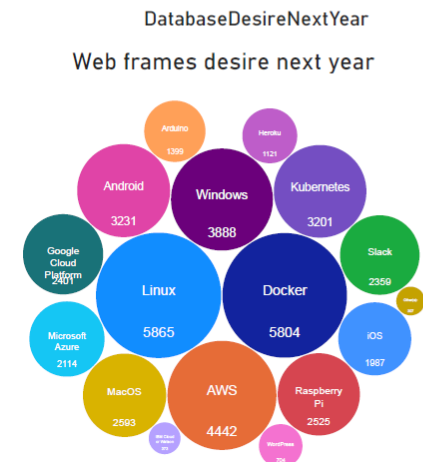
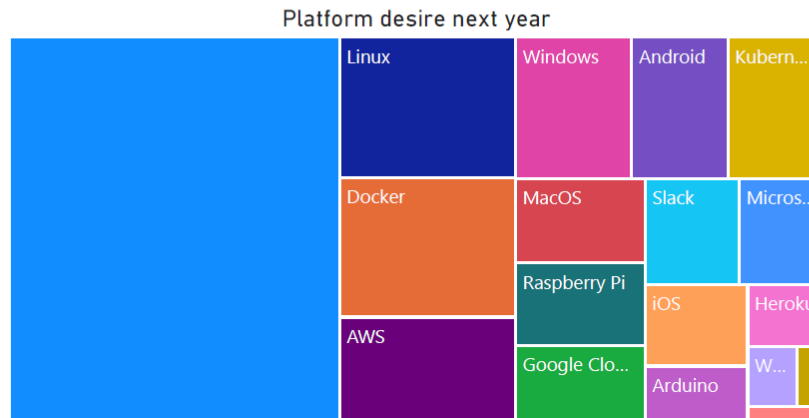
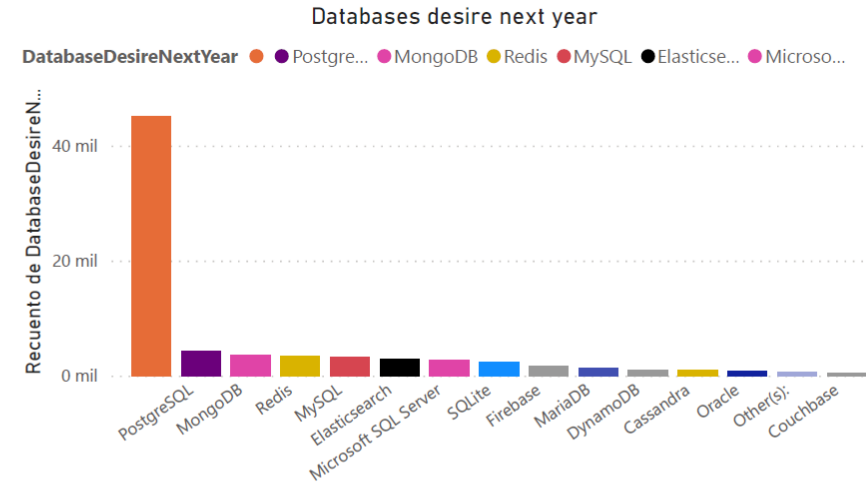
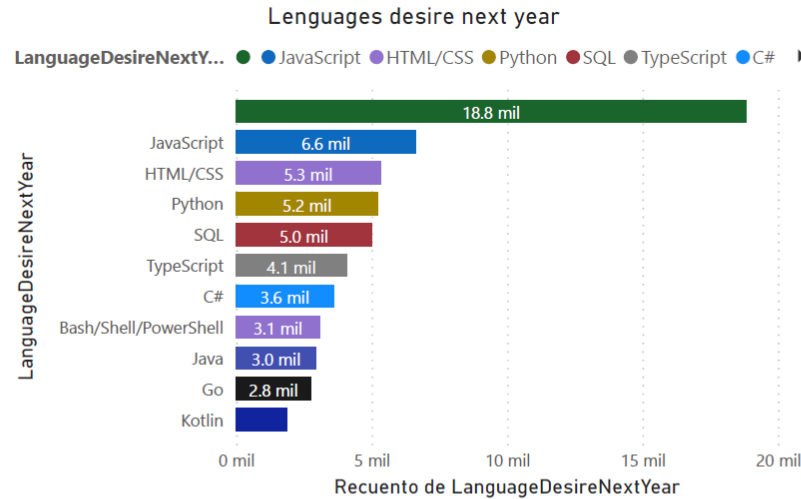


[<https://github.com/CCristianLeyva/Data-analytics.git>](https://github.com/CCristianLeyva/Data-analytics.git)

DASHBOARD TAB 1

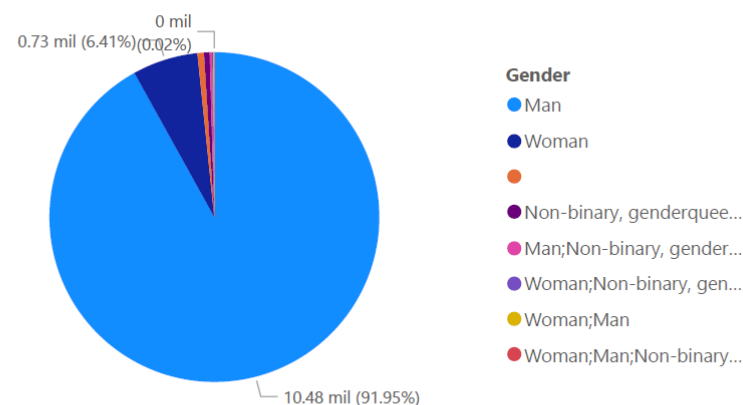


DASHBOARD TAB 2

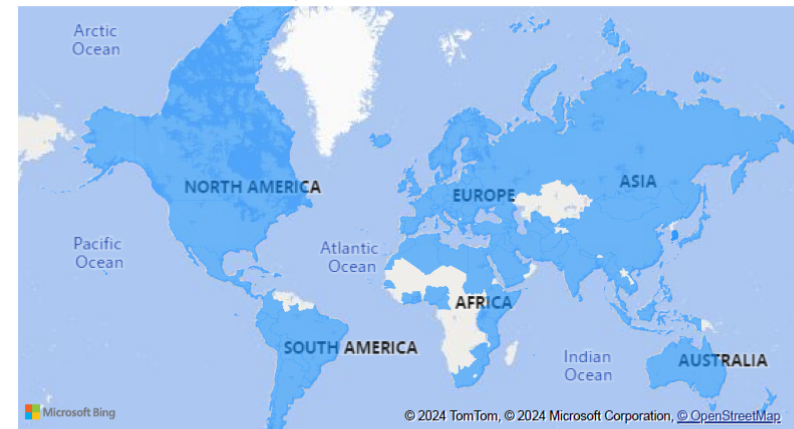


DASHBOARD TAB 3

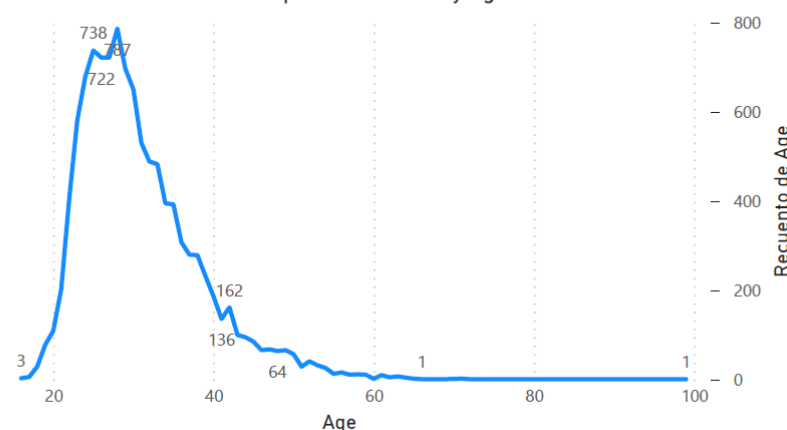
Respondent classified by gender



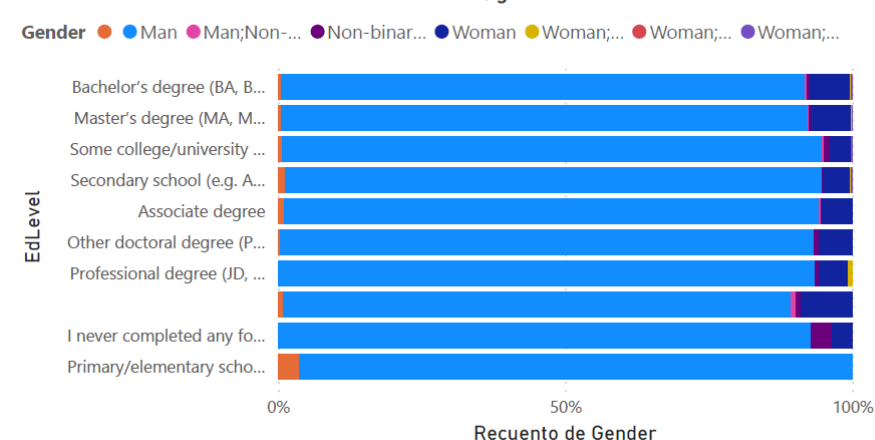
Respondent count for countries



Respondent count by age



Education level, gender



DISCUSSION



- **Language Trends:** The rise of Python and PostgreSQL indicates a demand for versatile tools in data-centric development.
- **Accessible Education:** Younger individuals are entering programming due to increased availability of online resources and bootcamps.
- **Emerging Technologies:** The popularity of tools like Redis emphasizes the need for developers to stay updated with industry advancements.
- **Youthful Workforce:** A younger demographic fosters innovation but may lead to gaps in experience and mentorship in complex programming areas.

OVERALL FINDINGS & IMPLICATIONS

Findings

- **Early Start in Programming:** Many individuals are beginning their programming journeys at a young age, often before completing advanced degrees, highlighting the accessibility of coding education.
- **Diverse Language Landscape:** JavaScript remains the most popular language, while Python, PostgreSQL, and MongoDB are gaining traction, reflecting developers' shifting preferences and the demand for versatile tools.
- **Importance of Adaptability:** As the technology landscape evolves, programmers must continuously update their skills and knowledge to effectively meet industry needs and leverage emerging technologies like Redis.

Implications

- **Emphasis on Continuous Learning:** The evolving programming landscape necessitates that developers commit to lifelong learning to stay relevant and proficient in in-demand languages and technologies.
- **Strategic Skill Development:** As younger individuals enter the field, focusing on versatile and emerging technologies will be crucial for both new and seasoned developers to enhance their employability and adapt to changing industry requirements.

CONCLUSION



- **Dynamic Landscape:** The programming field is continually evolving, with languages like Python and databases like PostgreSQL gaining popularity alongside established tools like JavaScript and MySQL.
- **Youthful Engagement:** Many aspiring developers are starting their journeys at a young age, often without advanced degrees, indicating a shift towards more accessible coding education.
- **Adaptability is Key:** Programmers must embrace continuous learning and adaptability to keep up with industry demands and emerging technologies.
- **Diverse Skill Sets:** A broad knowledge base across various languages and databases is essential for developers to effectively tackle modern data management and programming challenges.