

# WHAT DEVELOPERS WANT: A DATA-DRIVEN LOOK INTO PROGRAMMING AND TECH TRENDS

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# OUTLINE



- Executive Summary
- Introduction
- Methodology
- Results
  - Visualization – Charts
  - Dashboard
- Discussion
  - Findings & Implications
- Conclusion
- Appendix
- Sources



# EXECUTIVE SUMMARY



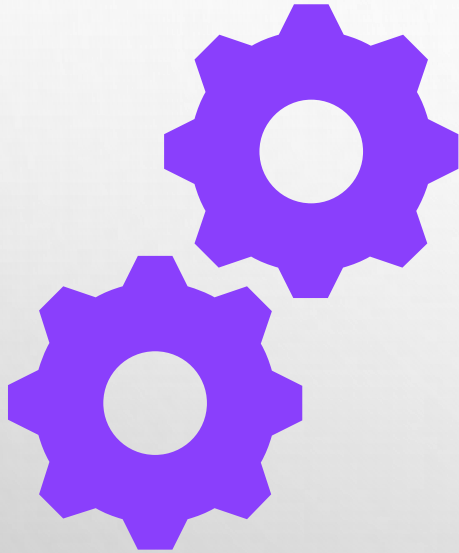
- Python is the most sought-after programming language
- SQL continues to rise in popularity
- PostgreSQL leads in both usage and interest
- AWS dominates the cloud platform space
- React surpasses Node.js in developer preference
- SQLite and Supabase show increasing future demand

# INTRODUCTION



- **Stack Overflow** is the largest platform for developers. Its annual survey offers a snapshot of real-world tech trends from thousands of professionals.
- Programming languages and tools **evolve quickly**—some rise, others fade.
- The data shows growing interest in modern tools for **web, data, and AI**, highlighting where the industry is heading.
- By comparing what developers use today with what they want to use, we can spot **in-demand skills and emerging technologies**.

# METHODOLOGY



- DATA COLLECTION & WRANGLING
  - Modified Stack Overflow 2024 Survey Results
  - Developed an API to collect data from a cloud-hosted JSON file
  - Scraped the web to gather programming language salary data
- DATA ANALYSIS & VISUALIZATION
  - Performed data cleaning and preparation
  - Grouped and aggregated data for analysis
  - Created visualizations to represent trends

# RESULTS

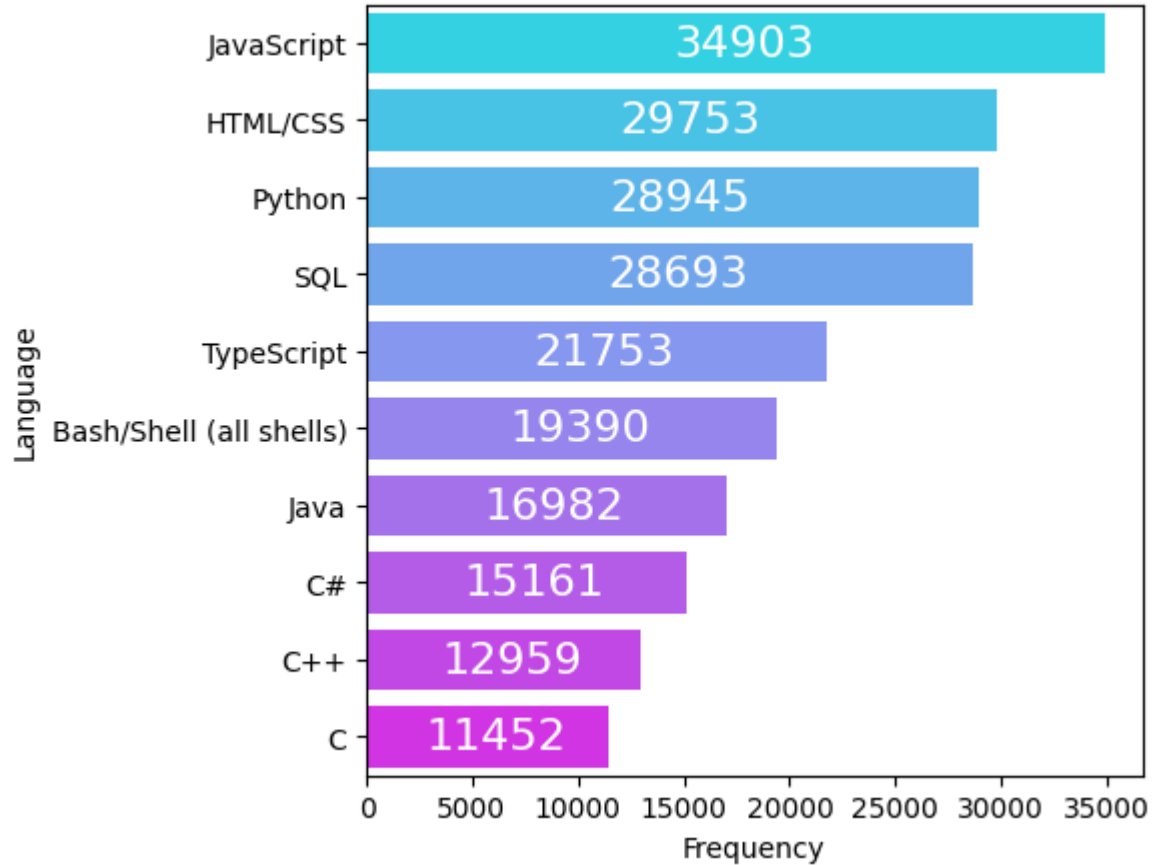
*“You can have data without information,  
but you cannot have information without  
data.”*

— Daniel Keys Moran

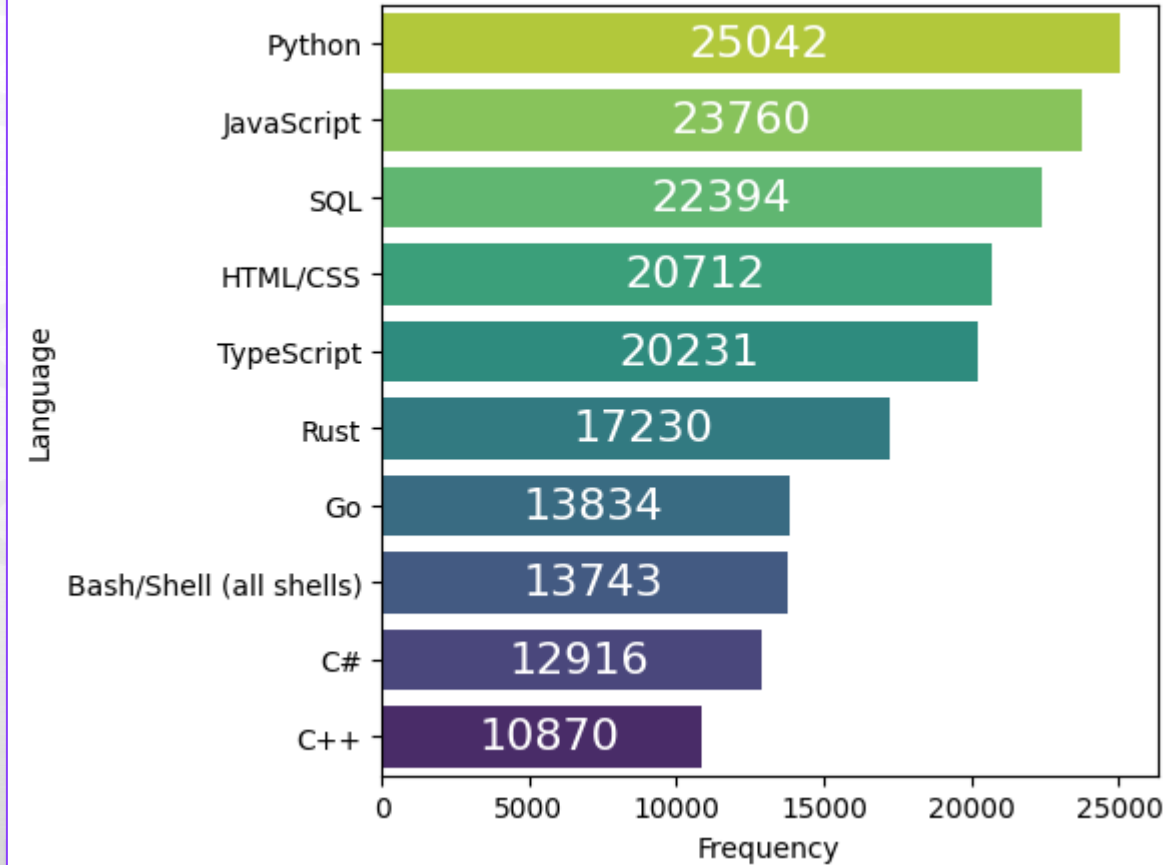


# PROGRAMMING LANGUAGE TRENDS

Top 10 Developer Languages Used This Year



Top 10 Developer Languages Desired Next Year



# PROGRAMMING LANGUAGE TRENDS: FINDINGS & IMPLICATIONS

## FINDINGS

- JavaScript remains the most commonly used language
- Python shows the strongest growth in developer interest
- SQL continues to gain traction
- Rust and Go, though less used currently, show rising popularity among developers

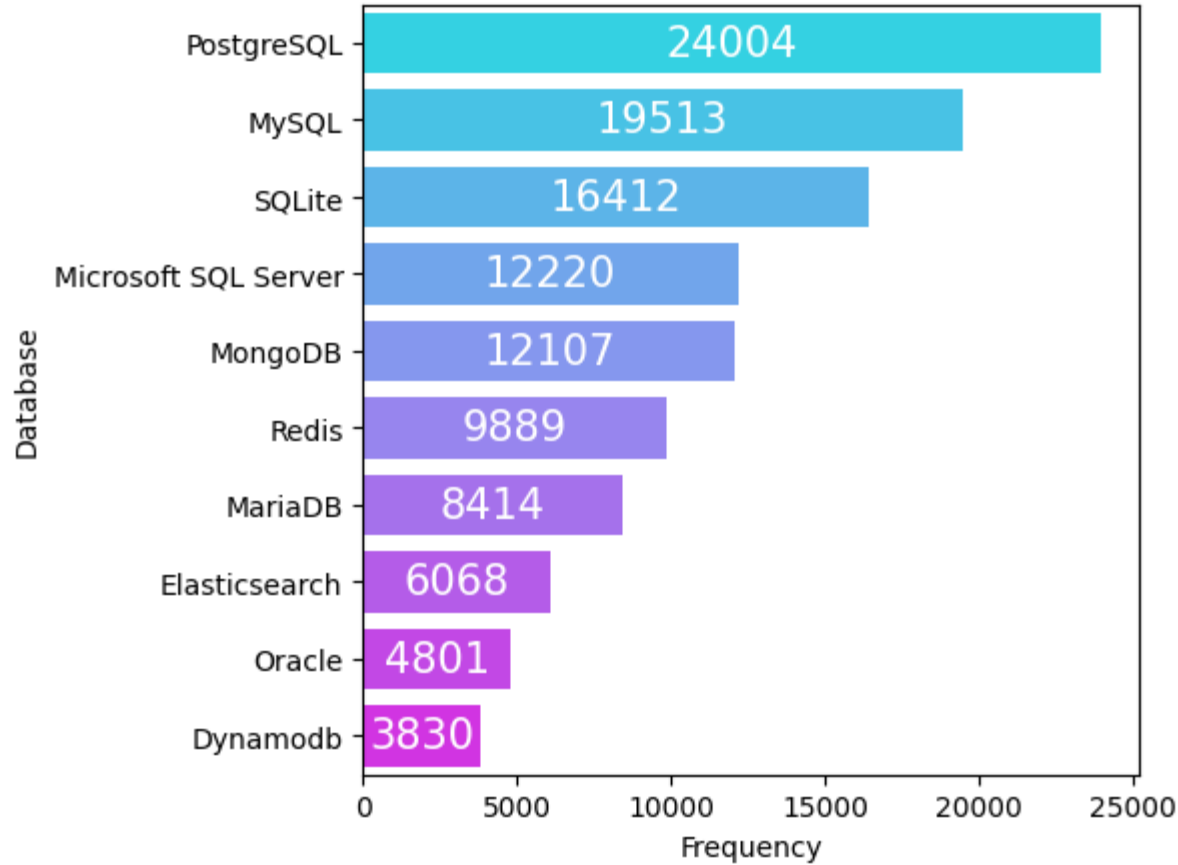
## IMPLICATIONS

- Developers are shifting from older languages like C to modern ones like Python, Go, and Rust
- Python and SQL stand out for their data, automation, and versatility value
- Gaps between usage and interest reflect changing industry needs and priorities

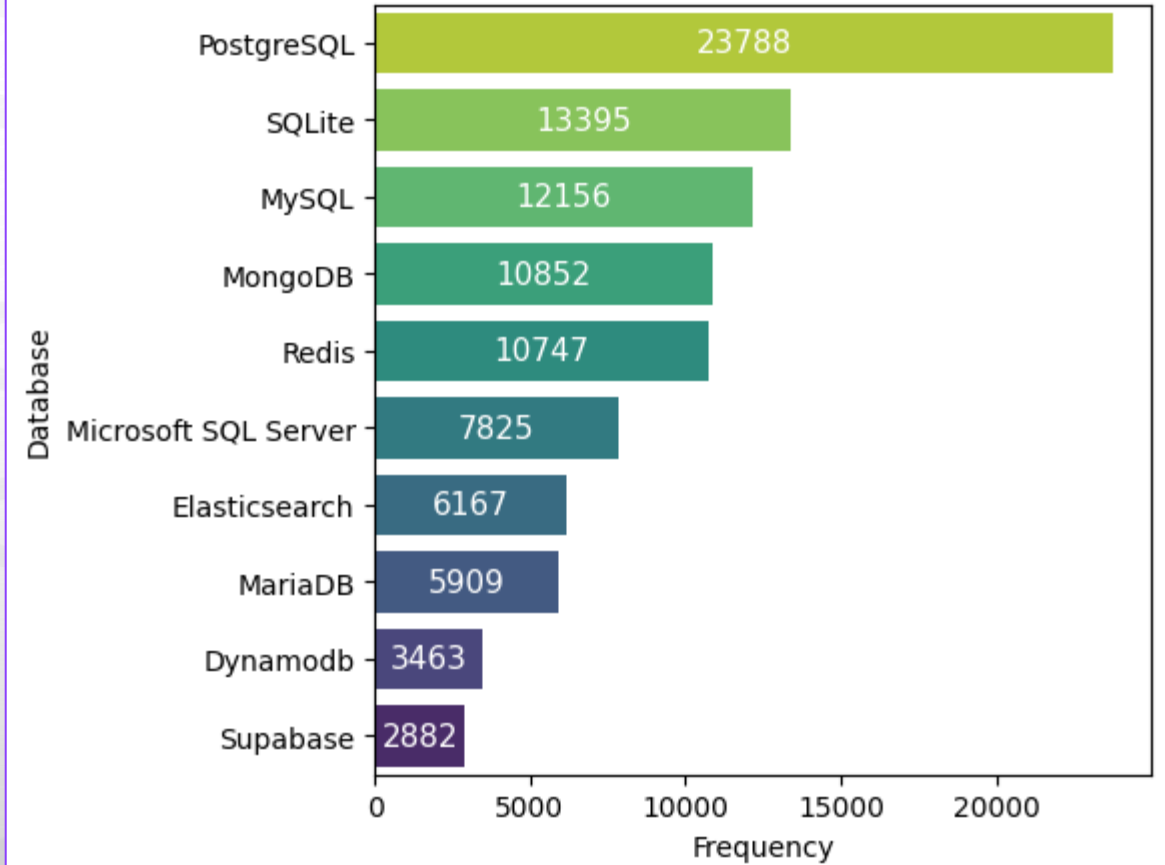


# DATABASE TRENDS

Top 10 Developer Databases Used This Year



Top 10 Developer Databases Desired Next Year



# DATABASE TRENDS: FINDINGS & IMPLICATIONS

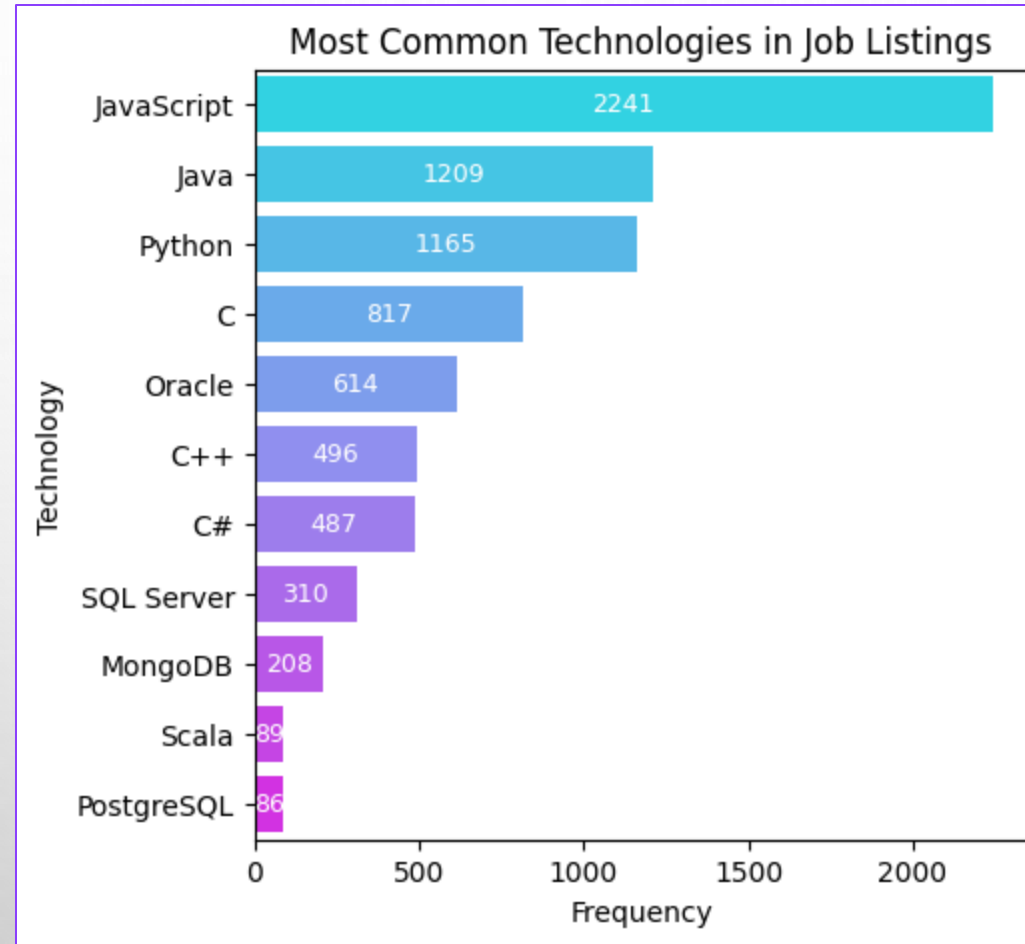
## FINDINGS

- PostgreSQL leads in both usage and interest
- SQLite sees a big jump in future demand
- MySQL, SQL Server, and MongoDB lose ground
- Supabase enters the top 10 for future interest

## IMPLICATIONS

- Lightweight tools like SQLite and Supabase are on the rise
- Legacy systems like SQL Server and Oracle are losing appeal
- PostgreSQL stays strong thanks to its versatility
- New platforms are gaining developer trust

# JOB POSTINGS



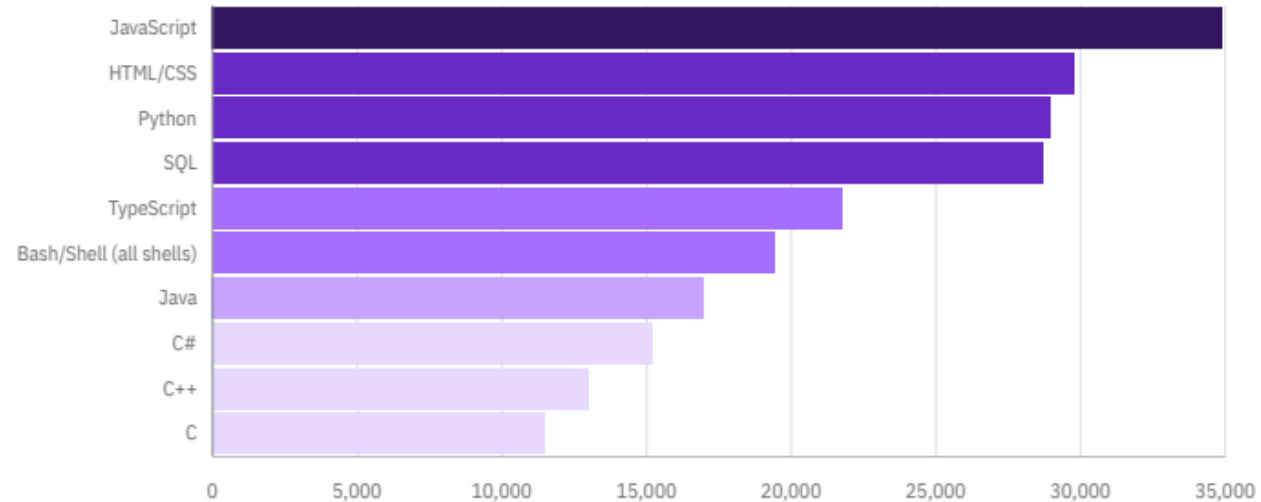
# DASHBOARD

WITH IBM COGNOS ANALYTICS



# TRENDS IN CURRENT YEAR

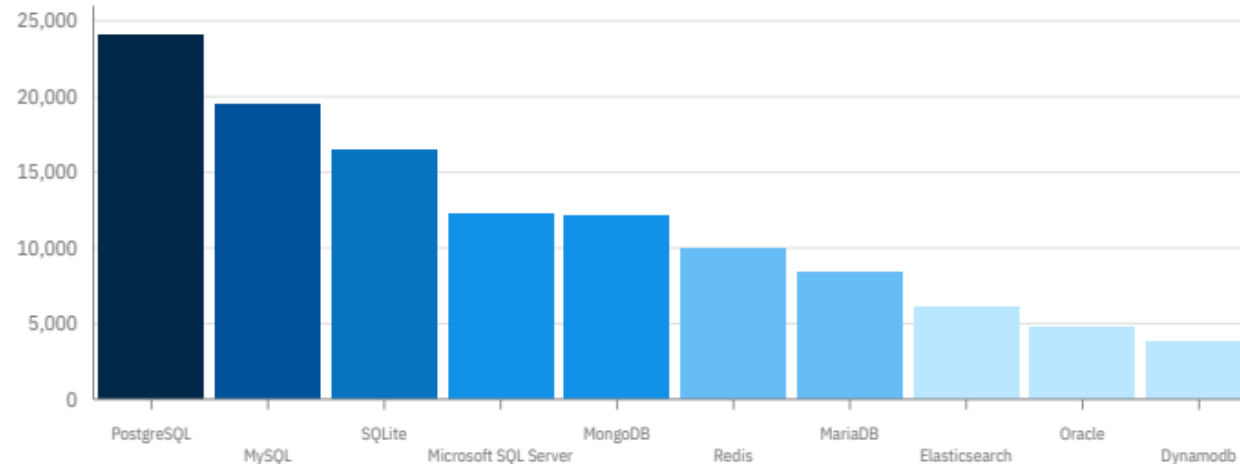
Top 10 Developer Languages Used



Top Platforms Used



Top 10 Databases Used

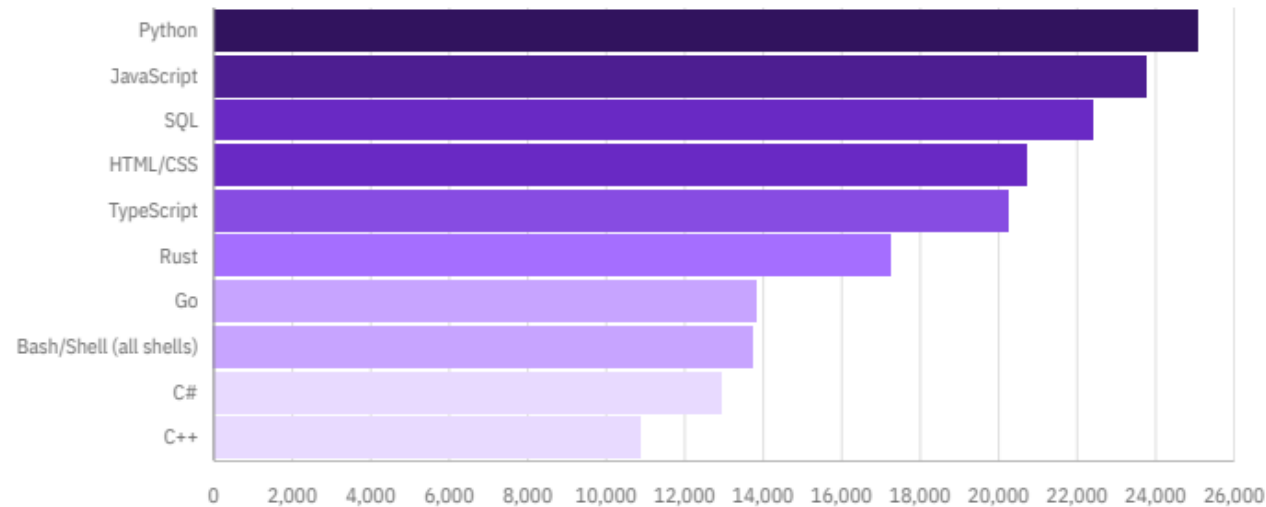


Top 10 Web Frameworks Used



# TRENDS NEXT YEAR

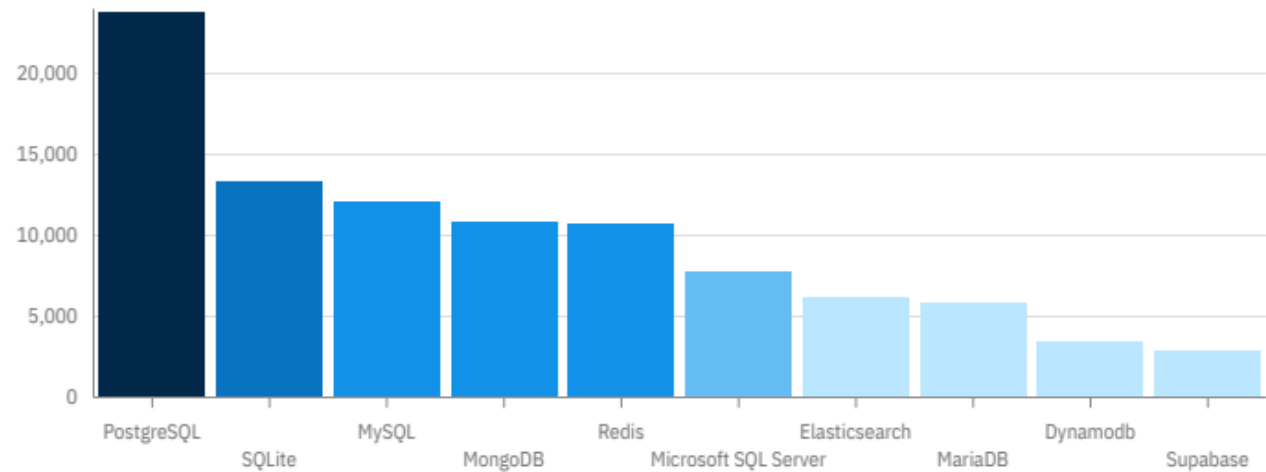
Top 10 Desired Developer Languages



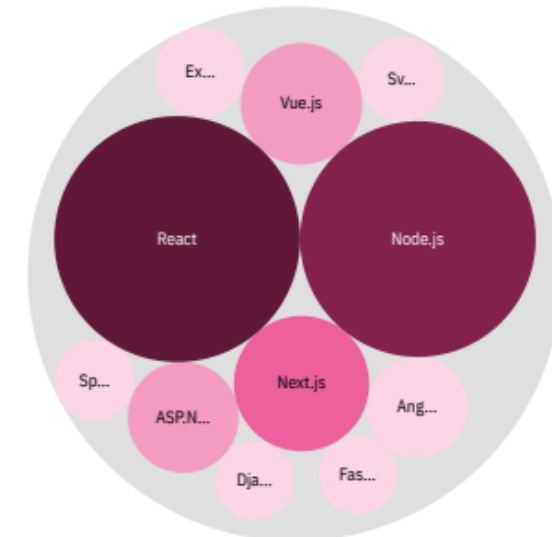
Top Desired Platforms



Top 10 Desired Databases



Top 10 Desired Web Frameworks



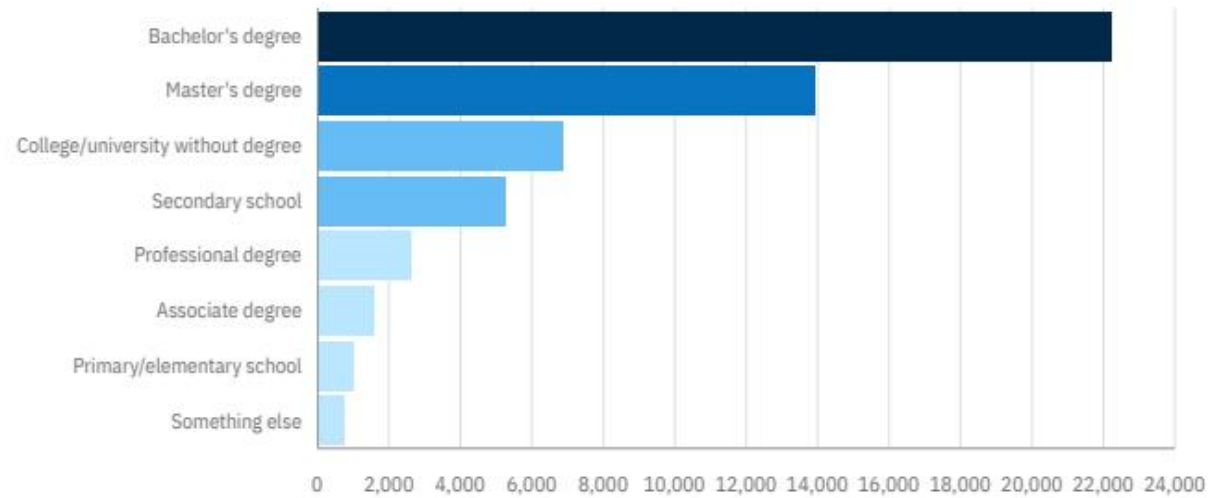


# DEMOGRAPHICS OF RESPONDENTS

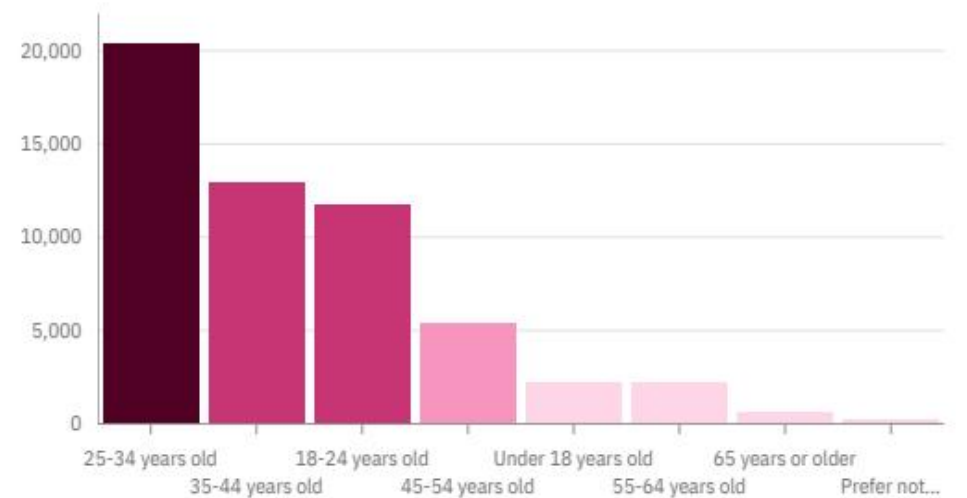
Global Distribution of Respondents



Respondents by Education Level



Respondents by Age Group



# DISCUSSION



- Python becomes the most sought-after language
- SQL, Go, and Rust are rapidly rising in popularity
- AWS leads the cloud platform space by a wide margin
- PostgreSQL takes the top spot among databases
- React overtakes Node.js in developer preference
- Most respondents hold a Bachelor's degree

# OVERALL FINDINGS & IMPLICATIONS

## FINDINGS

- **Python and SQL are on the rise** — Python becomes the most sought-after language, and SQL continues gaining traction.
- **Emerging technologies gain momentum** — Go, Rust, SQLite, Supabase, and PostgreSQL show growing interest or adoption.
- **Shifts in platform and framework popularity** — AWS dominates platforms, react overtakes Node.js, and PostgreSQL leads among databases.

## IMPLICATIONS

- **Developers are favoring modern, efficient tools** — languages like Python, Go, and Rust are replacing older options like C.
- **Versatility and simplicity are winning factors** — lightweight tools like SQLite and Supabase gain traction for their ease and speed.
- **Industry needs are evolving** — the gap between current usage and rising interest signals a shift toward future-ready technologies.

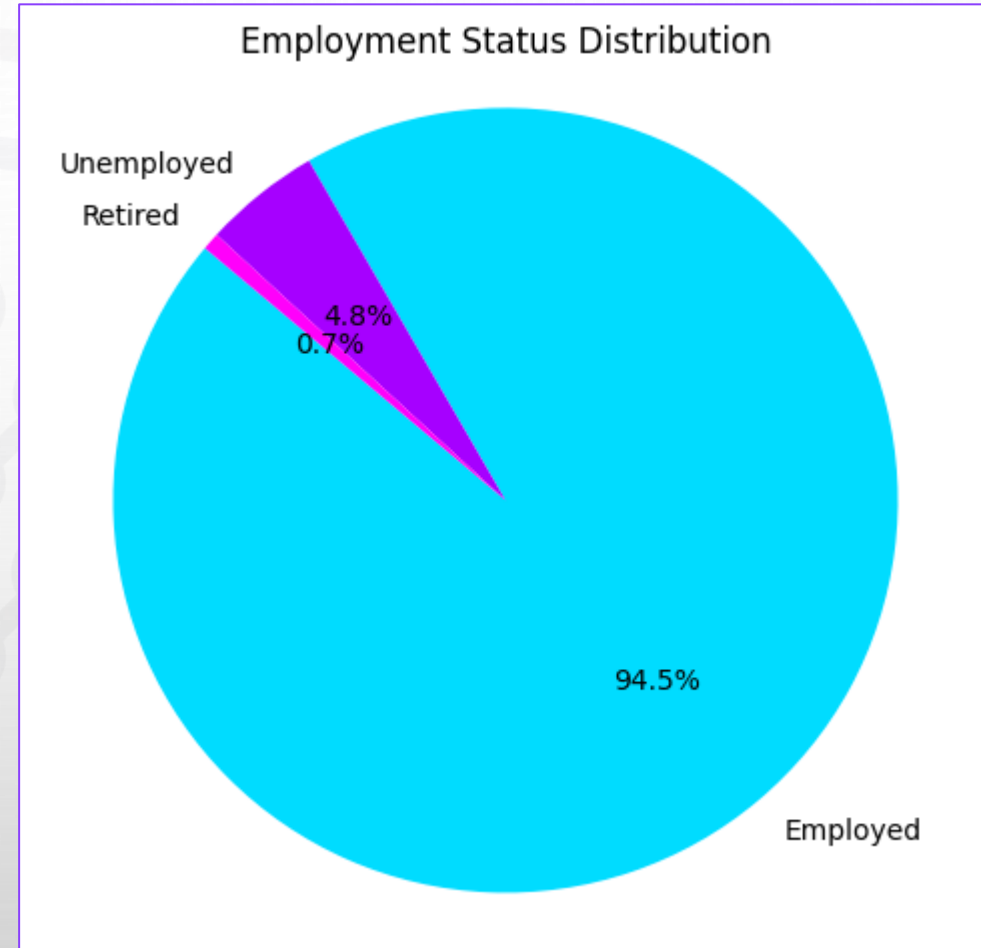
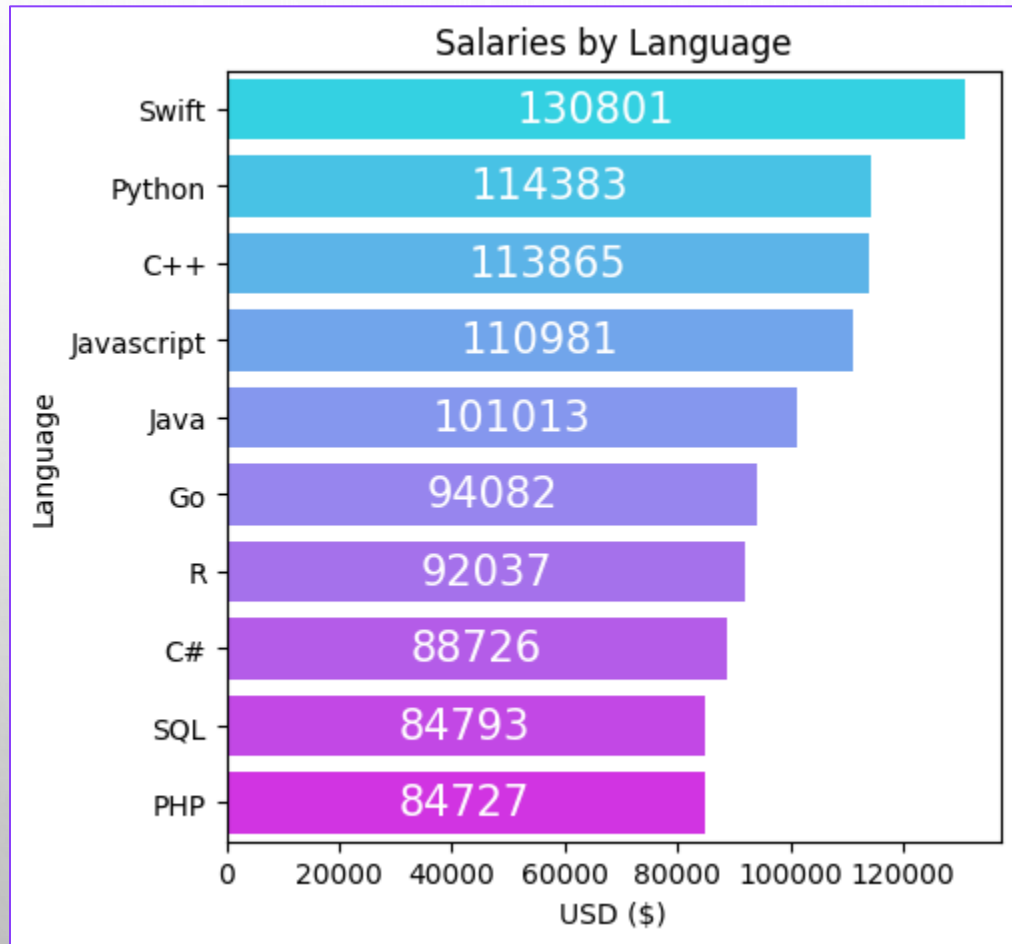
# CONCLUSION



- Modern, versatile languages like Python, Go, and Rust are shaping the future of development.
- PostgreSQL and lightweight tools like SQLite and Supabase reflect a shift toward flexible, developer-friendly databases.
- The dominance of AWS and the rise of React highlight current industry preferences in platforms and frameworks.
- A clear gap between usage and interest signals rapid technological change and evolving developer priorities.

# APPENDIX

## Supplementary details





# SOURCES

- The data comes from the 2024 Stack Overflow Developer Survey, which polled over 65,000 developers globally. The full survey can be accessed here: [2024 Developer Survey](#).
- Two additional datasets provided by IBM & SkillsNetwork were used: [Job Listings](#) and [Developer Salary Data](#).