

THE TECH PULSE

Analyzing current and emerging trends in
programming languages, databases and
frame works

by balaprasad chimule

Completion date : 15/02/2025



© IBM Corporation. All rights reserved.



OUTLINE



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



EXECUTIVE SUMMARY



- **INTRODUCTION:**

Overview of the survey on programming languages, databases and webframeworks

- **KEY FINDINGS:**

- **Programming languages:** Most programming languages used: HTML, JavaScript, SQL
- **Databases:** Most popular databases: PostgreSQL, MicrosoftSQL, MySQL
- **Webframeworks:** Spring Boot, React, ASP.NET CORE

- **RECOMMENDATIONS:**

Developers should focus on versatile languages like HTML and Javascript

- **CONCLUSION:**

Reinforce the need for continuous learning and adapting to new trends.

- **FUTURE OUTLOOK:**

Emphasis on staying updated with evolving technologies to maintain competitiveness.

INTRODUCTION



- **OVERVIEW:**

Overview of the survey on programming languages, databases and webframeworks

- **PURPOSE:**

Purpose of the survey is to analyze current trends and preferences in tech industry

- **PARTICIPANTS:**

Survey included responses from a diverse group of professionals across different age groups and education levels

- **SCOPE:**

- **Topics covered:** Covering diverse range of programming languages, databases, and web frameworks
- **Methodology:** Data collection through online surveys and interviews with industry professionals



METHODOLOGY



- **QUESTIONNAIRE DEVELOPMENT:**

Development of a comprehensive questionnaire to capture data on programming languages, databases, and web frameworks.

- **DATA COLLECTION:**

Conducted through online surveys and interviews with industry professionals and developers. Reached to industry professionals across different age group and education levels

- **SAMPLING:**

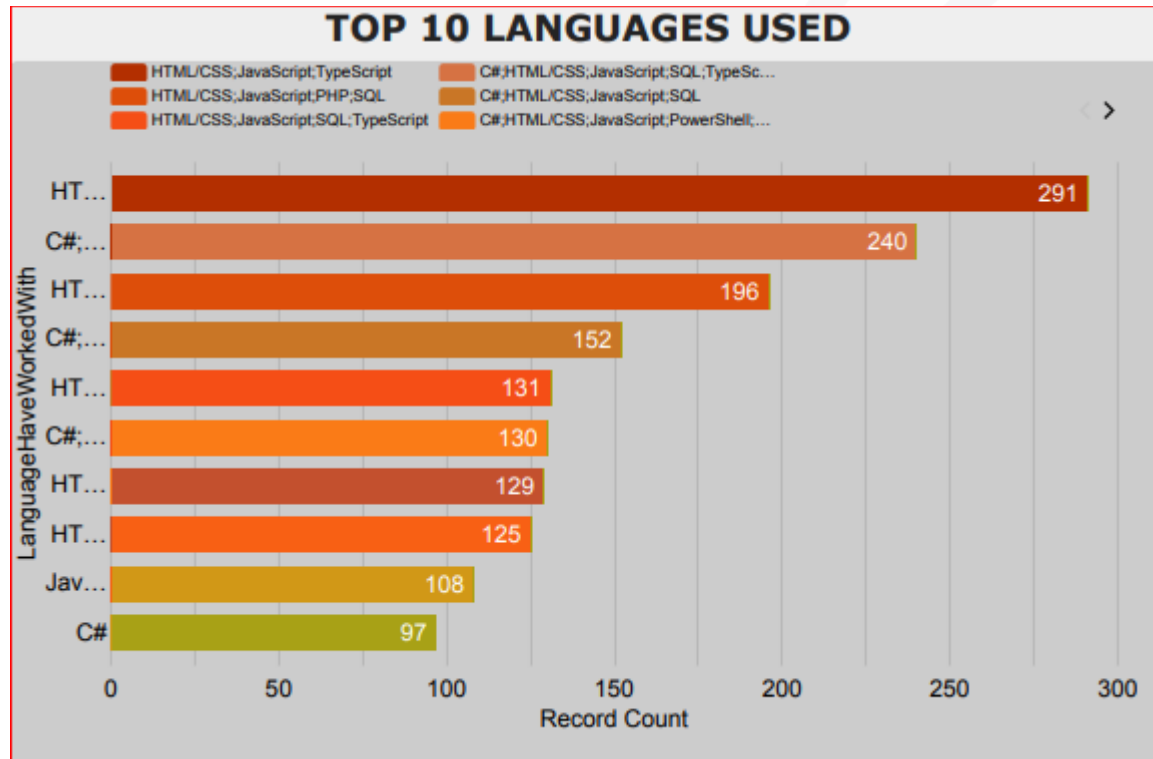
Targeted a diverse group of participants including developers, IT professionals, and industry experts

- **DATA ANALYSIS & WRANGLING:**

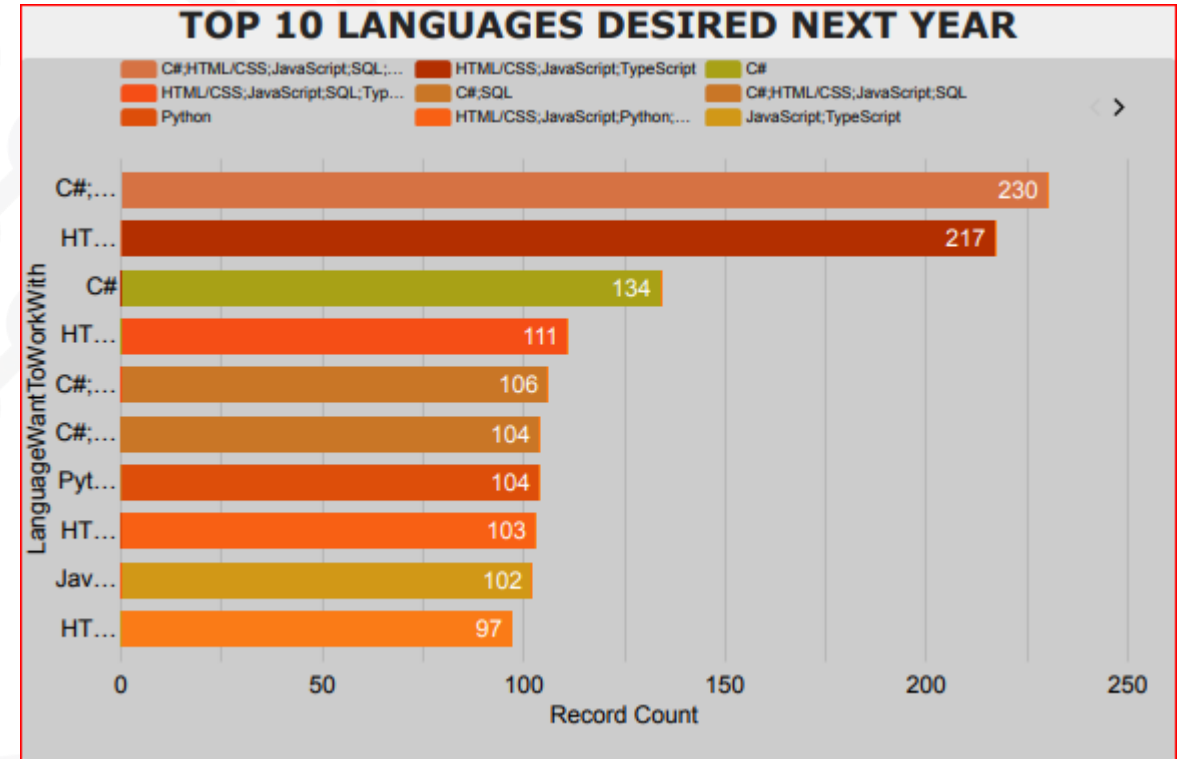
- **Trend identification:** Used excel for data collection, organization, and preliminary analysis.
- **Data visualization:** Employed looker studio for advanced data visualization, trend analysis, and reporting.

PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- **HTML:**

Html has seen significant increase over the past few years.

- **JAVASCRIPT FRAMEWORKS:**

There has been a rapid growth in the use of javascript frameworks like spring boot, react, asp.net core.

- **EMERGING LANGUAGES:**

New programming languages like c# and sql have been gaining tractions.

Implications

- **DEMAND FOR HTML PROFICIENCY**

As html's popularity grows, there is an increasing demand for developers proficient in html.

- **JAVASCRIPT FRAMEWORK EXPERTISE:**

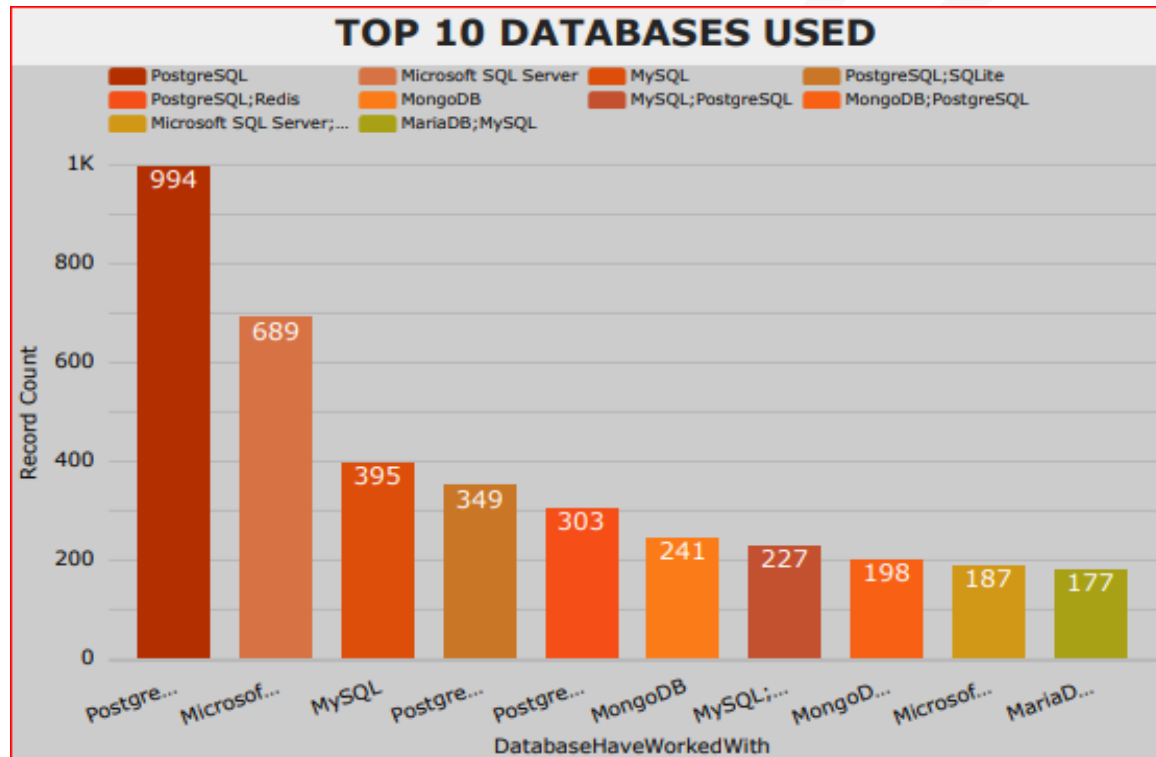
With the rise of javascript frameworks, developers need to become proficient in these tools to stay competitive.

- **ADOPTION OF NEW LANGUAGES:**

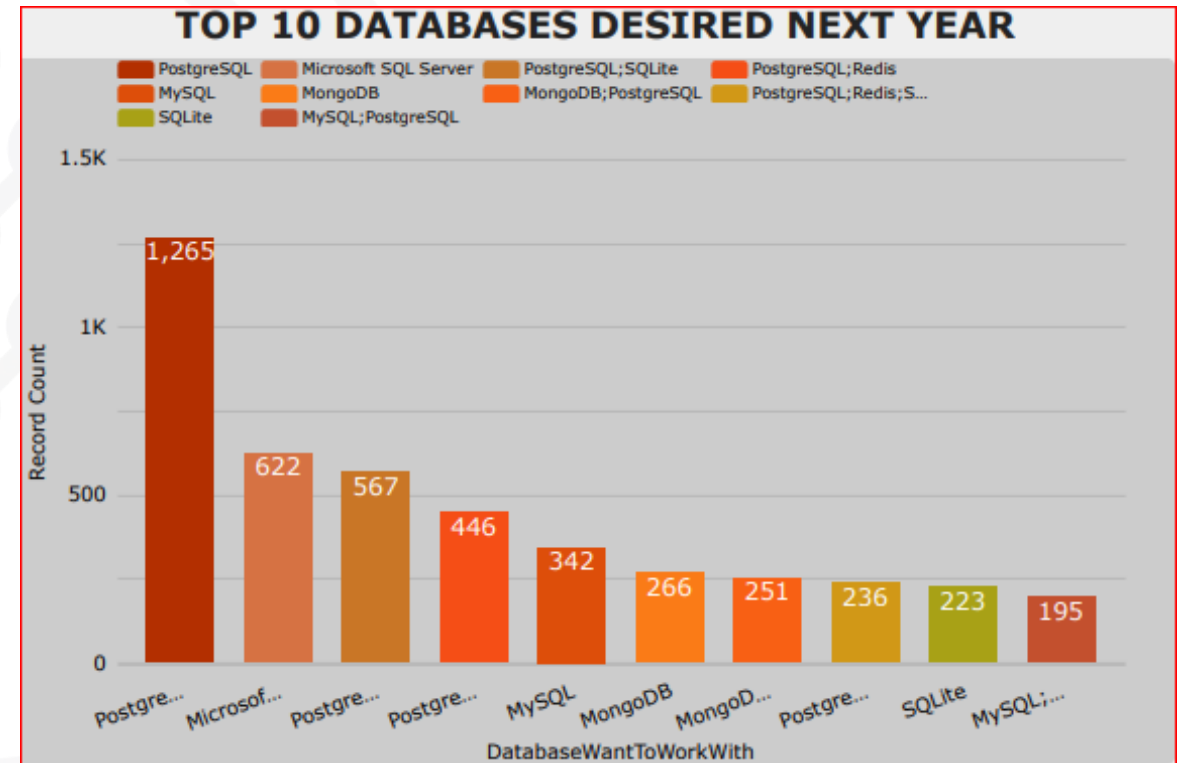
The emergence of new languages requires organizations to stay updated and adopt these technologies to maintain a competitive edge.

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- **PostgreSQL:**

The most widely used database among the respondents

- **Microsoft SQL Server:**

Significant usage and interest among participants

- **MongoDB and MySQL:**

Increasing popularity and adoption

Implications

- **PostgreSQL demand:**

Organizations should focus on PostgreSQL training and development to leverage its widespread

- **Proficiency in Microsoft SQL Server:**

Companies should ensure their teams are proficient in Microsoft SQL Server to meet industry demand.

- **Adoption of MongoDB and MySQL:**

Business should consider adopting MongoDB and MySQL to stay competitive and meet growing demand.



DASHBOARD

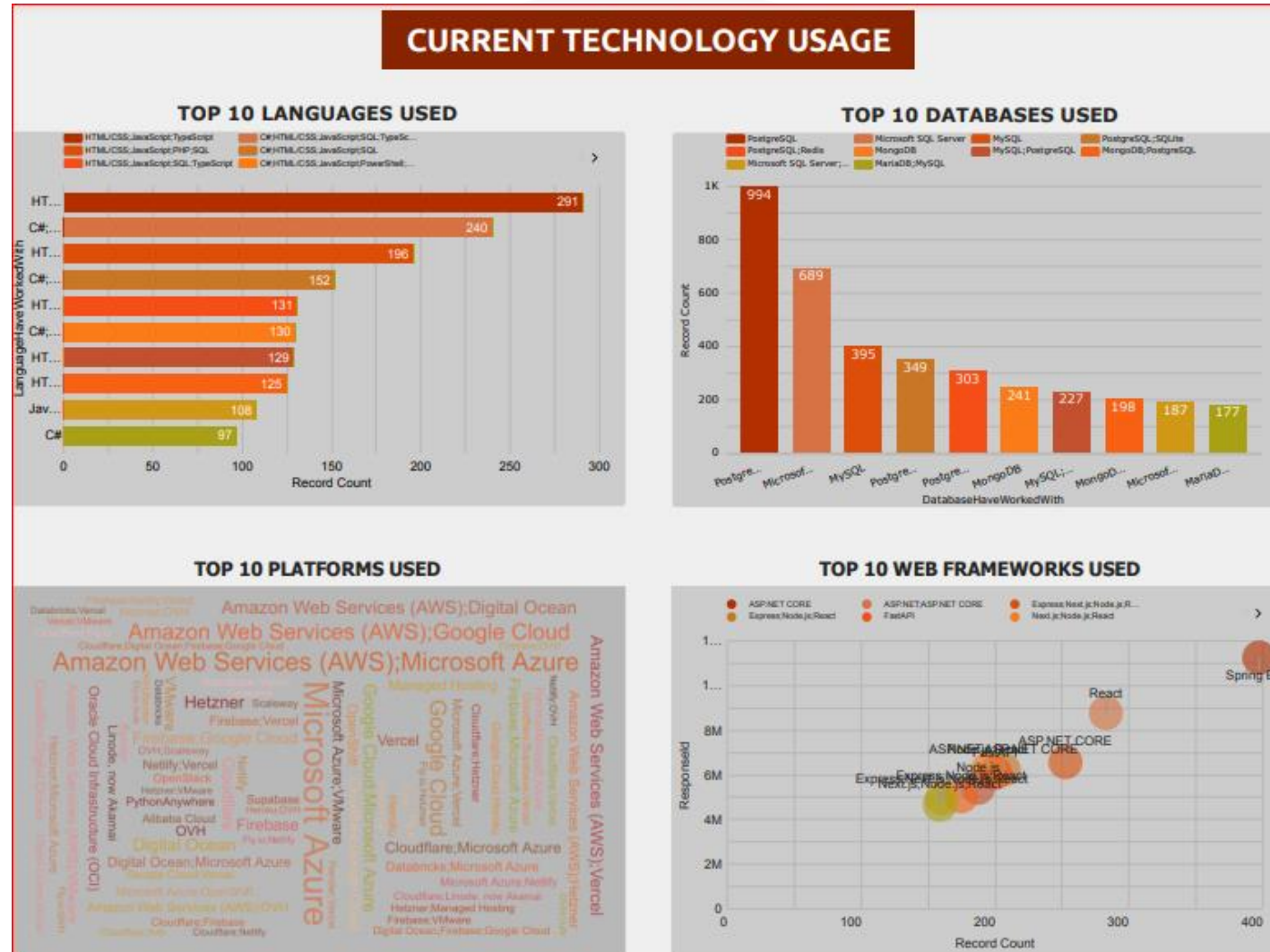


LOOKER STUDIO DASHBOARD LINK:

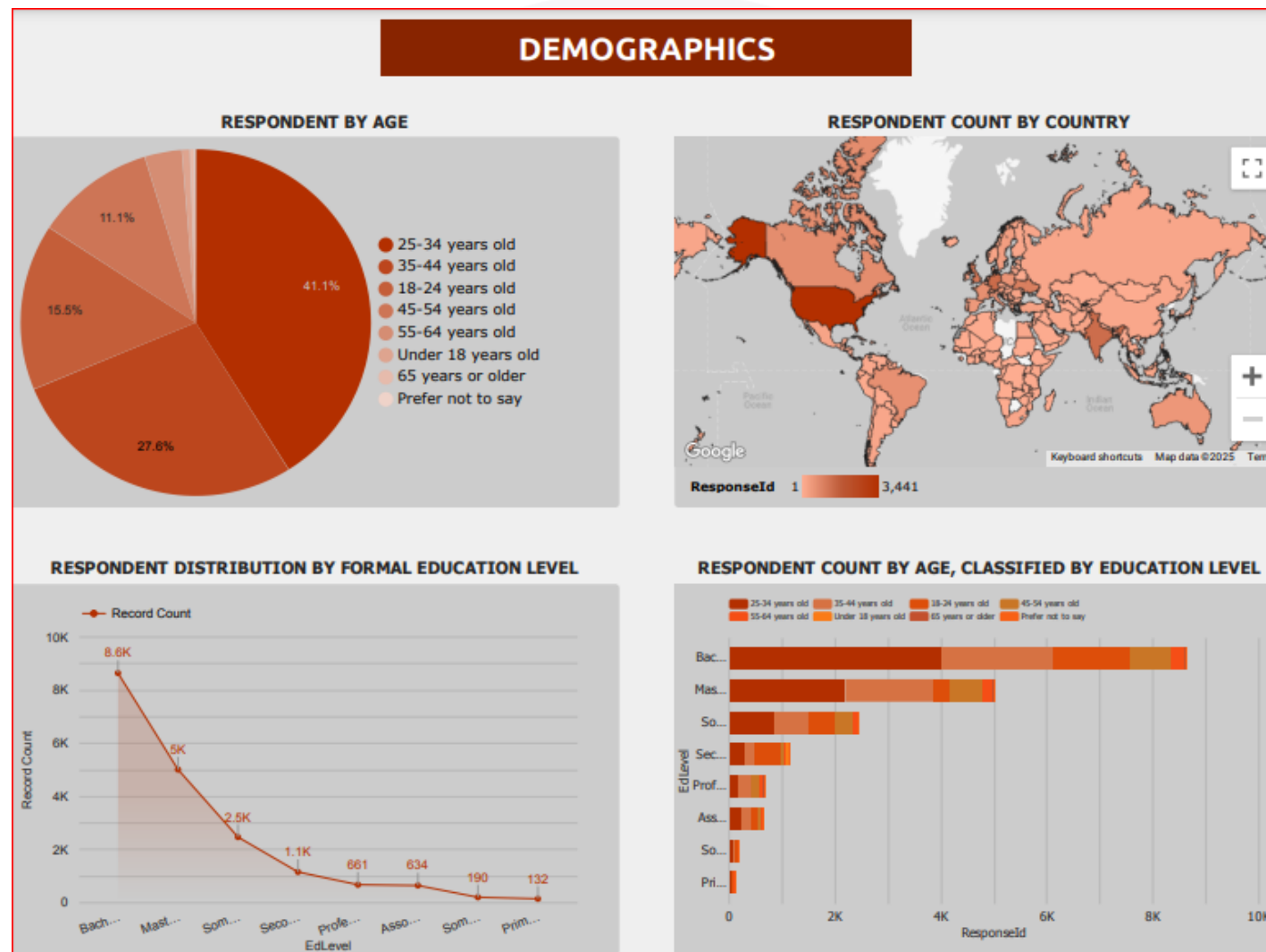
<https://lookerstudio.google.com/s/lu5tqyXwmA0>



DASHBOARD TAB 1



DASHBOARD TAB 3



DISCUSSION



- **CURRENT TECHNOLOGY USAGE:**

- **Languages:** HTML, C#, and JavaScript are the most used.
- **Databases:** PostgreSQL leads, followed by Microsoft SQL Server and MySQL.
- **Web Frameworks:** React, ASP.NET Core, and Spring Boot are the most popular.
- **Platforms:** Node.js, FastAPI, and Express are widely used.

- **FUTURE TECHNOLOGY TRENDS:**

- **Languages:** Developers want to adopt more C#, HTML, and Python.
- **Databases:** PostgreSQL remains dominant, with rising interest in MongoDB and SQLite.
- **Web Frameworks:** React and ASP.NET Core stay strong, with growing demand for FastAPI and Flask.
- **Platforms:** Next.js and Node.js show increasing adoption.

- **DEMOGRAPHICS:**

- **Age:** Majority are **25-34 years old (41.3%)**, followed by **35-44 years old (27.3%)**.
- **Education:** Most respondents hold a **Bachelor's degree (8.6K)**, followed by **Master's (5K)**.



OVERALL FINDINGS & IMPLICATIONS

Findings

- **CURRENT TECH TRENDS:**

HTML, C# and JavaScript are the most used languages with PostgreSQL as the top database

- **FUTURE TECH ADOPTION:**

Growing interest in Python, PostgreSQL and FastAPI indicating a shift towards modern technologies.

- **DEMOGRAPHICS:**

Majority of respondents are aged 25-34 years old and hold a bachelor's degree

Implications

- **WORKFORCE SKILL DEMAND:**

Companies should focus on upskilling in python, FastAPI and PostgreSQL to align with future trends

- **TECH STACK EVOLUTION:**

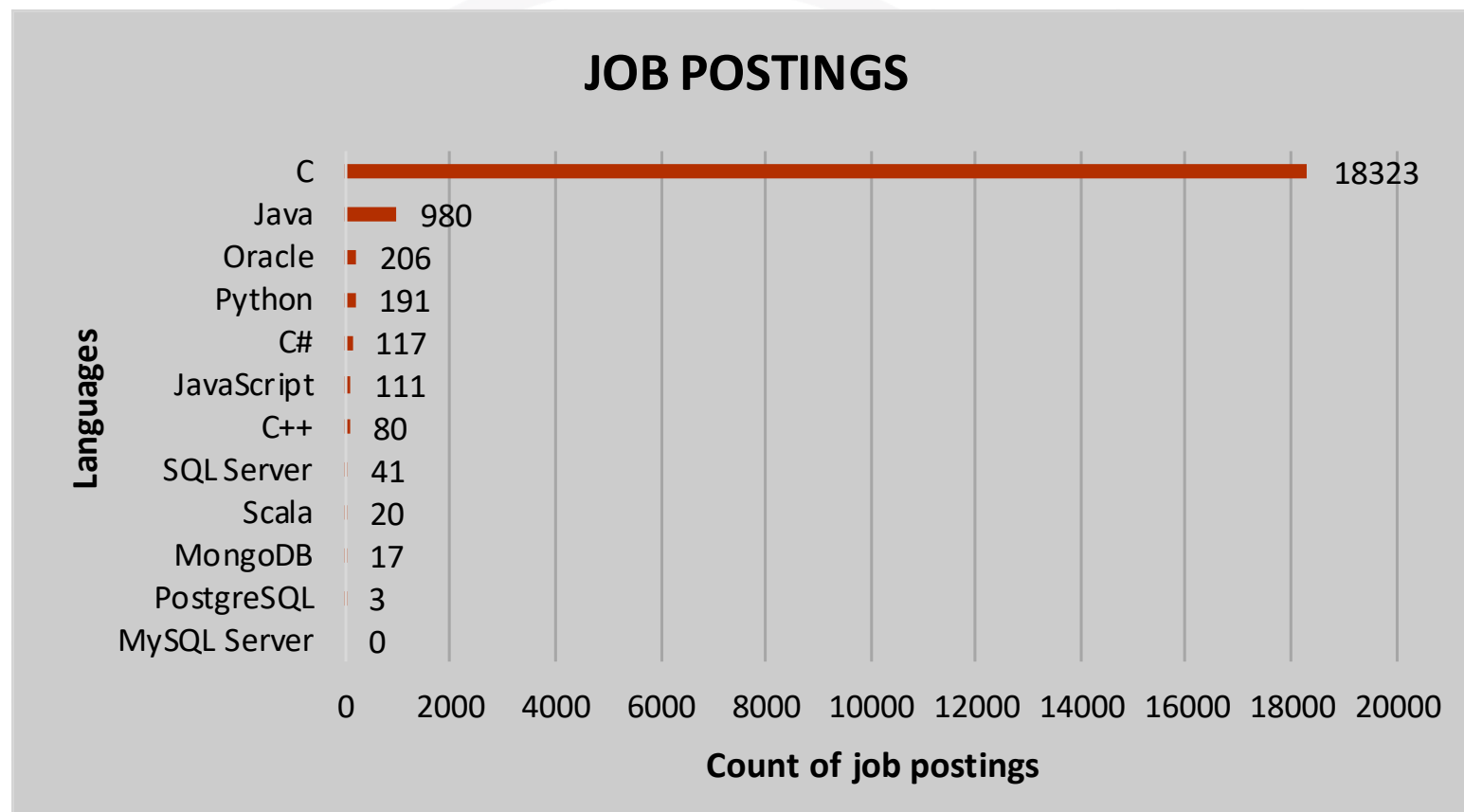
The rise of frameworks like Next.js and FastAPI suggests a shift towards modern web technologies.

- **HIRING & EDUCATION:**

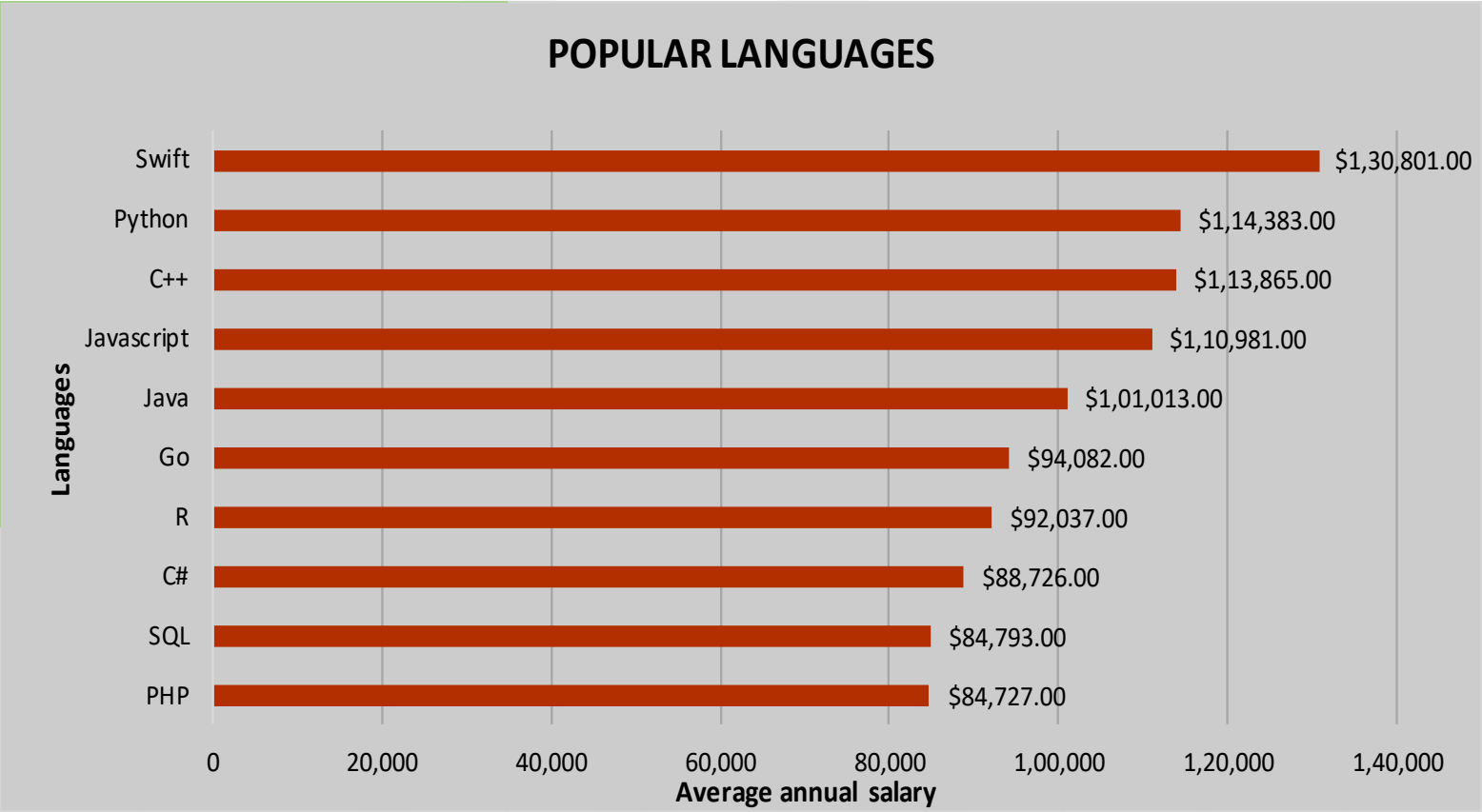
Organizations should target young professionals with bachelor's degrees while offering training for emerging technologies



JOB POSTINGS



POPULAR LANGUAGES



CONCLUSION



- **TECHNOLOGY TRENDS ARE EVOLVING:**

Developers are shifting towards modern frameworks like Next.js, FastAPI and Flask.

- **DEMAND FOR PYTHON & POSTGRESQL:**

These technologies are growing in popularity, indicating a shift in backend development.

- **DEMOGRAPHICS INFLUENCE WORKFORCE TRENDS:**

The majority of developers are young professionals with a bachelor's degree, shaping hiring and training strategies.

- **FUTURE READINESS IS KEY:**

Organizations should invest in emerging technologies and skill development to stay competitive.



APPENDIX



- Include any relevant additional charts, or tables that you may have created during the analysis phase.

