Trends in Software

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OUTLINE

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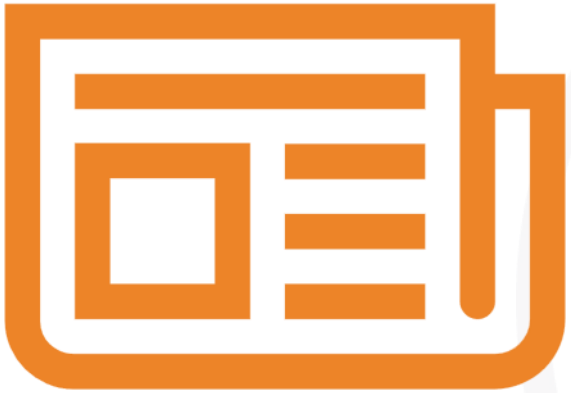
EXECUTIVE SUMMARY

- The survey captures responses from thousands of developers worldwide, focusing on tools, technologies, and work preferences.
- JavaScript, Python, and SQL remain dominant in usage, with Rust and Go gaining future interest.
- Windows and Linux are the most used platforms; AWS, Docker, and Google Cloud dominate backend tooling.
- Education and age are closely tied to job satisfaction and remote work preferences.

INTRODUCTION

- **Purpose:**
  To uncover key trends from the Stack Overflow Developer Survey and understand developer preferences.
- **Audience:**
  Recruiters, tech managers, educators, data analysts.
- **Value:**
  Helps in making strategic decisions about hiring, upskilling, product development, and curriculum planning.

METHODOLOGY



Text:

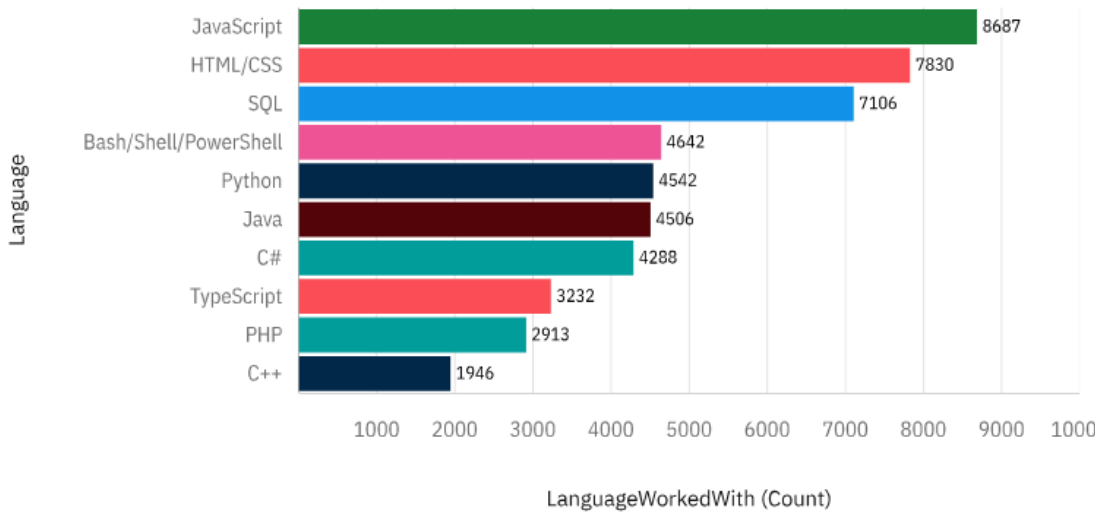
- **Data Source:** Stack Overflow Developer Survey (2023–2024)
- **Data Format:** CSV, pre-cleaned, normalized
- **Tools Used:** IBM Cognos Analytics, Excel, Python

- **Wrangling Steps:**
  - Removed nulls and outliers
  - Grouped age and education levels
  - Aggregated values for charts

PROGRAMMING LANGUAGE TRENDS

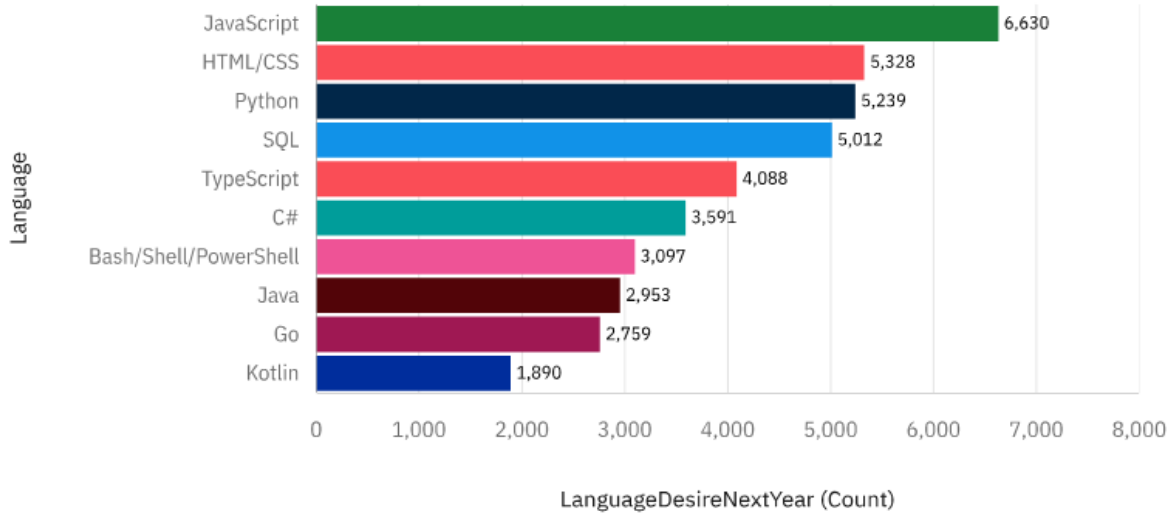
Current Technology Usage

Top 10 Programming Languages Worked With



Future Technology Trend

Top 10 Programming Languages Wanted to Work With



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings:

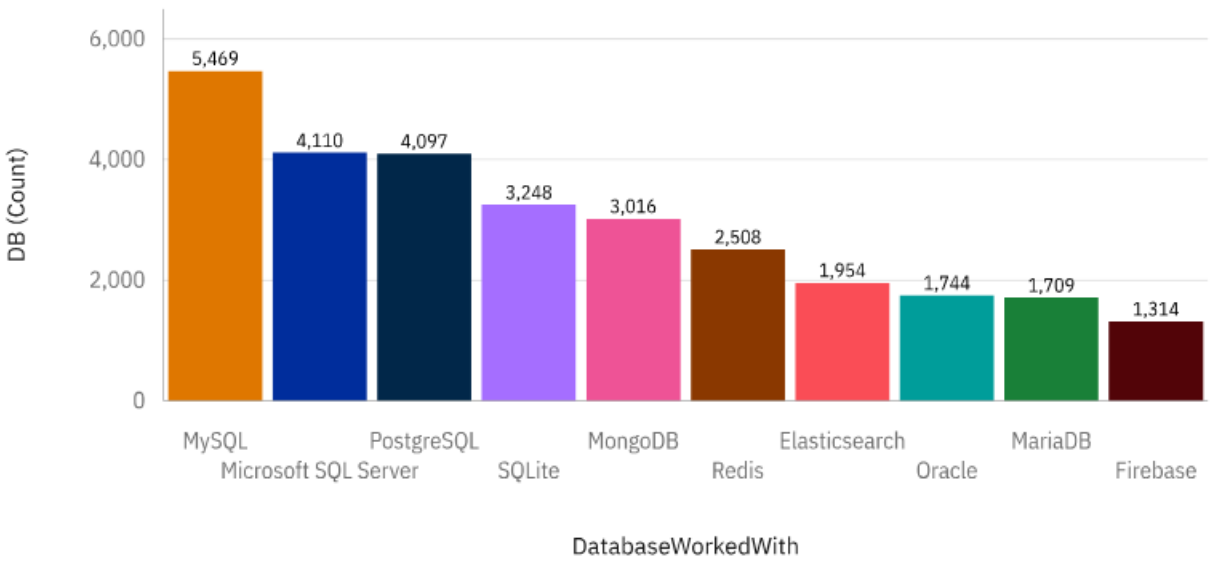
- JavaScript and Python lead as most used.
- Rust, Go, and TypeScript show growing popularity among developers for future projects.
- Indicates strong demand for full-stack and scripting languages.

Implications:

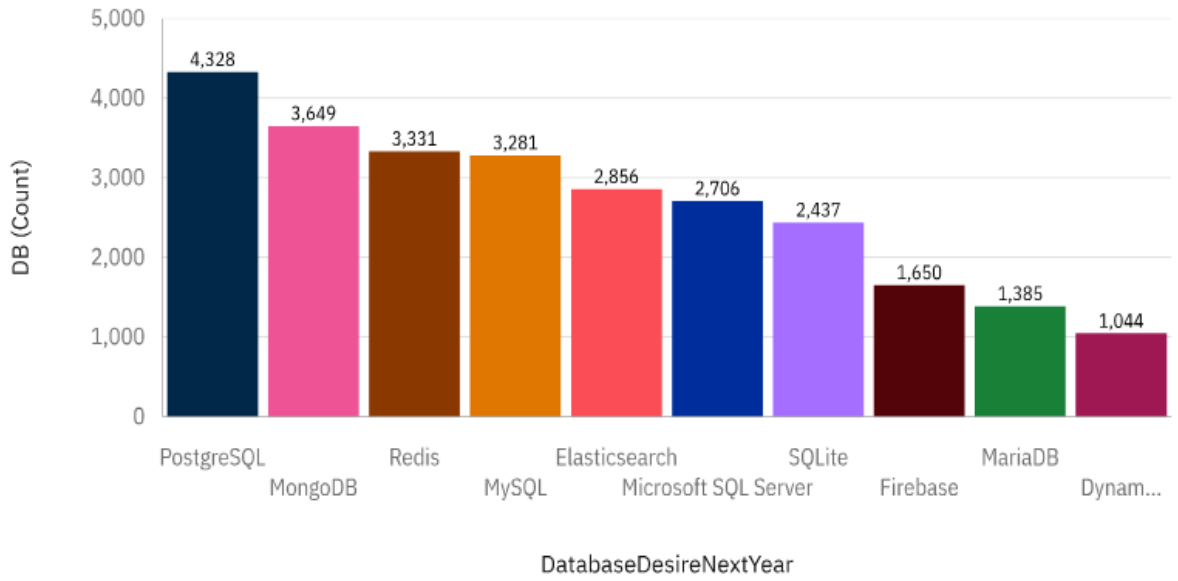
- Hiring strategies should continue to prioritize JavaScript and Python.
- Organizations should start exploring adoption of Rust and Go for performance-critical systems.

DATABASE TRENDS

Top 10 Databases Worked With



Top 10 Databases Wanted to Work With



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DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings:

- MySQL, PostgreSQL, and MongoDB dominate.
- Oracle is not in the top 10 most desired.
- Developers losing interest in MicrosoftSQL.

Implications:

- PostgreSQL has more features and makes working with SQL easier.
- As data becomes more prevalent and valuable storing it becomes more important, thus explaining the increase in data stores.

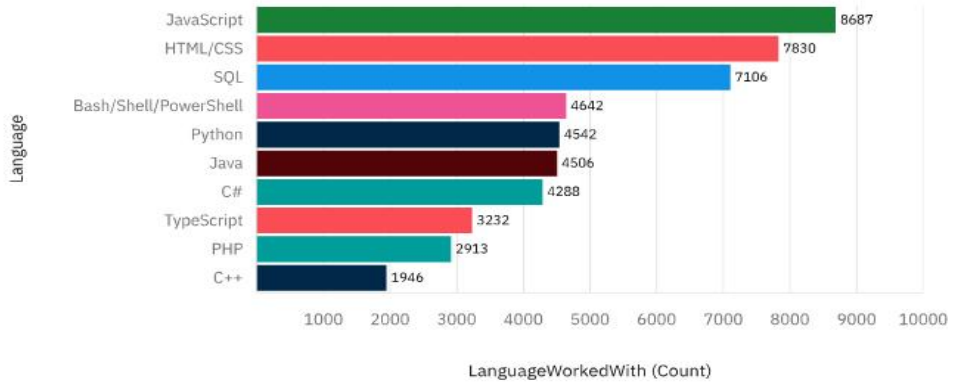
DASHBOARD

In the following slides, I'll be presenting the dashboards and visualizations used to get these insights:

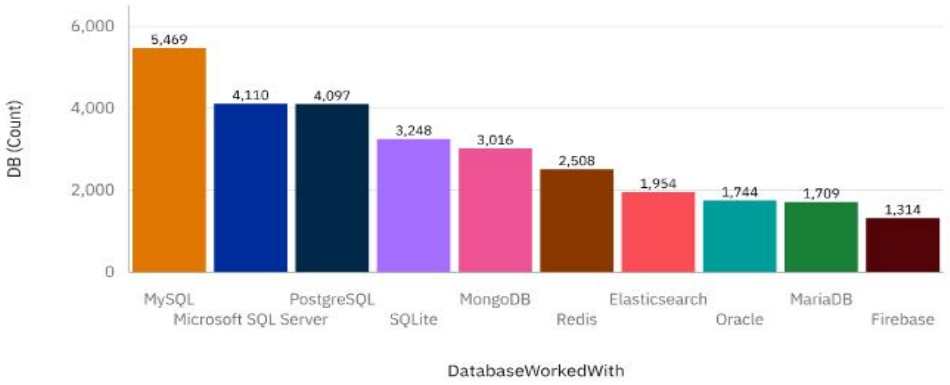
DASHBOARD TAB 1

Current Technology Usage

Top 10 Programming Languages Worked With

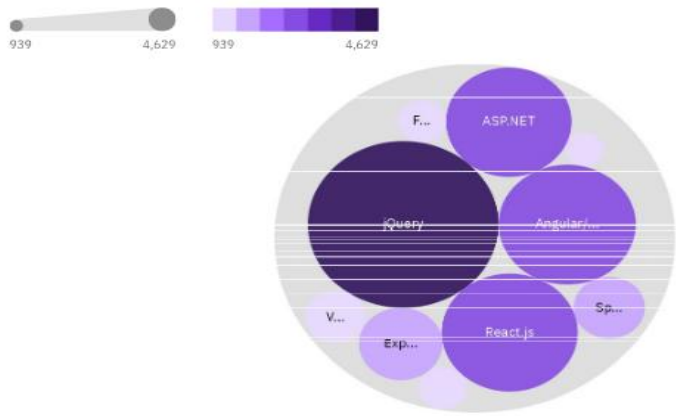


Top 10 Databases Worked With



Top 10 Platforms Worked With

Top 10 Webframes Worked With



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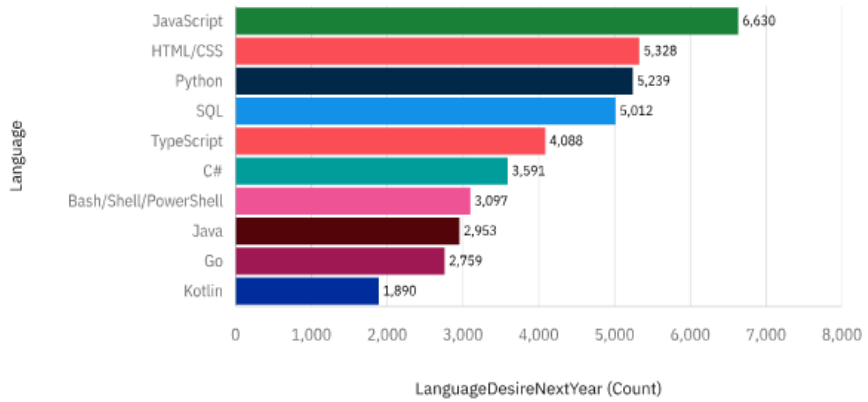
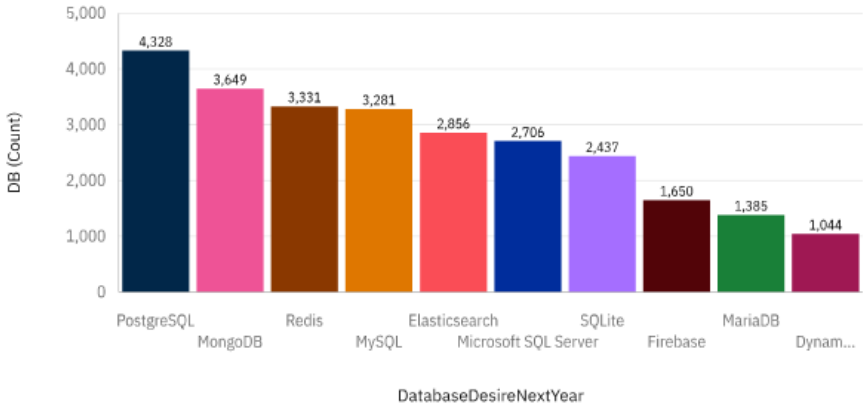
DASHBOARD TAB 2

Future Technology Trend

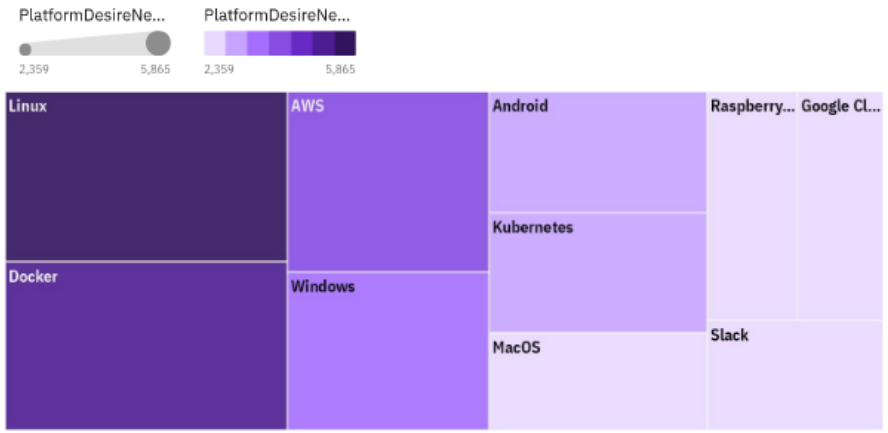
Top 10 Programming Languages Wanted to Work With



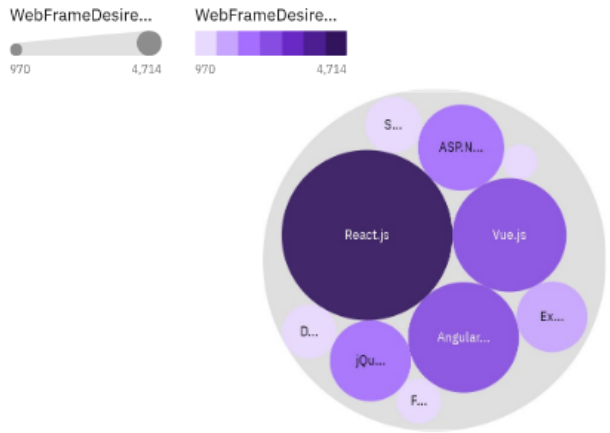
Top 10 Databases Wanted to Work With



Top 10 Platforms Wanted to Work With



Top 10 Webframes Wanted to Work With



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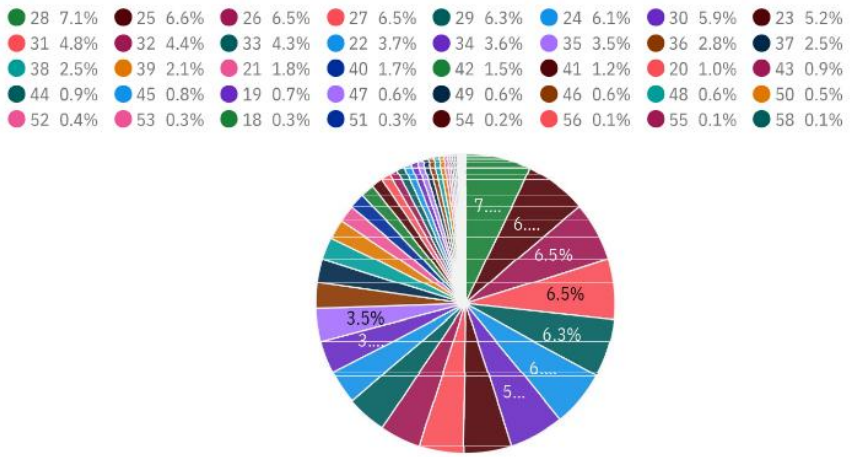
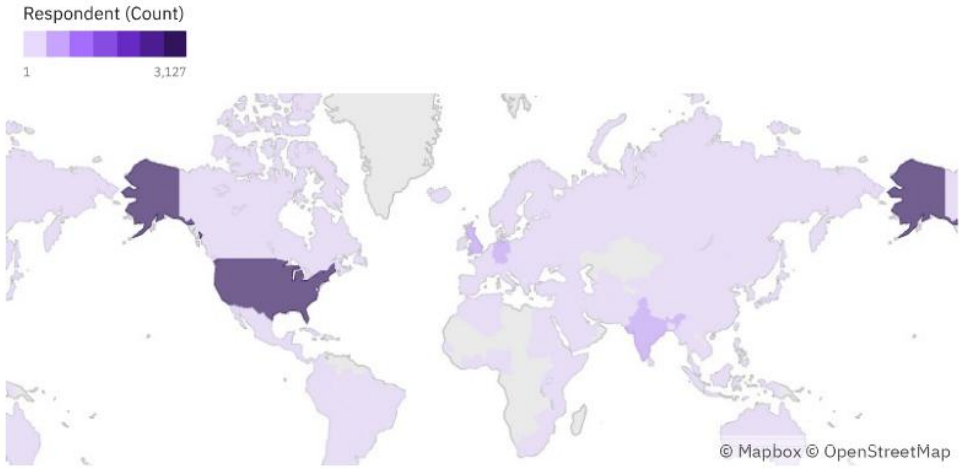
DASHBOARD TAB 3

Demographics

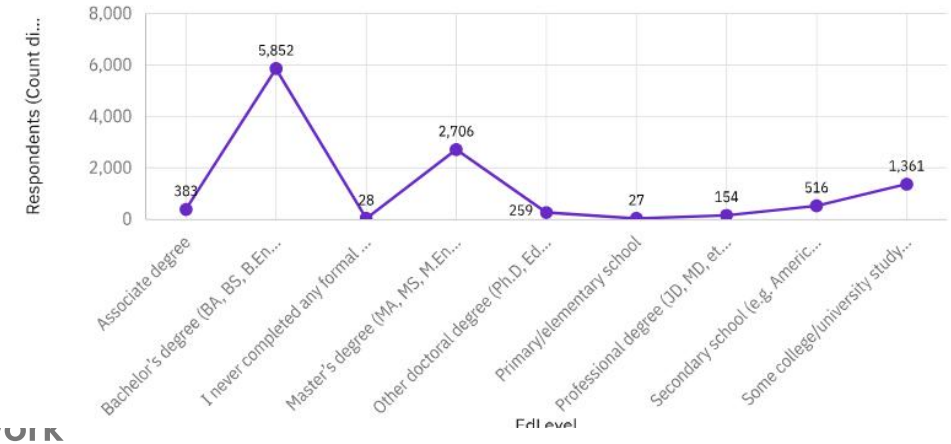
Respondent distribution by Age



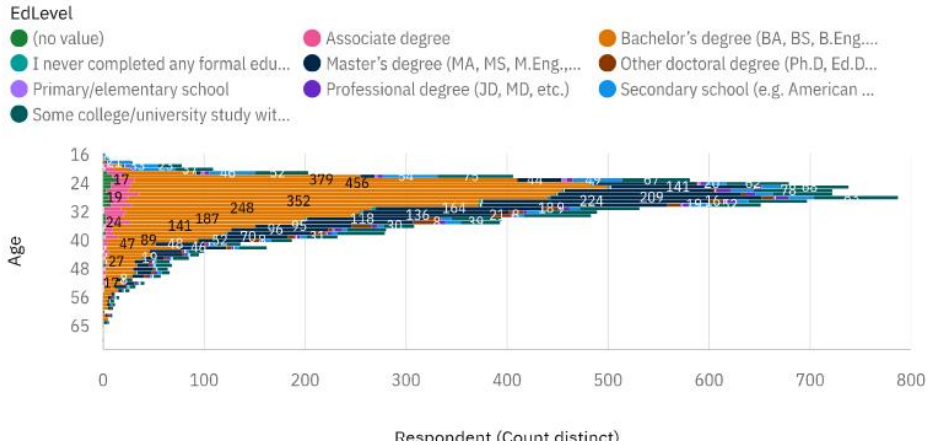
Respondent Country



Respondents by Formal Education Level



Respondents by Age, classified by Education Level



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DISCUSSION

OVERALL FINDINGS & IMPLICATIONS

Findings:

- Majority of respondents are male
- Most of the respondents were between.
- the ages of 22-32.
- The most important factor for a Job is Technologies used
- Python has one of the highest salaries.

Implications:

- Respondents being more on the young side could explain the tendency to want to adopt newer languages and technologies.
- All the technologies in the survey are English-based, this could stem from the respondents being predominantly English.
- Since developers choose jobs based on technologies used it could sway employers to embrace those technologies to draw in talent.

CONCLUSION

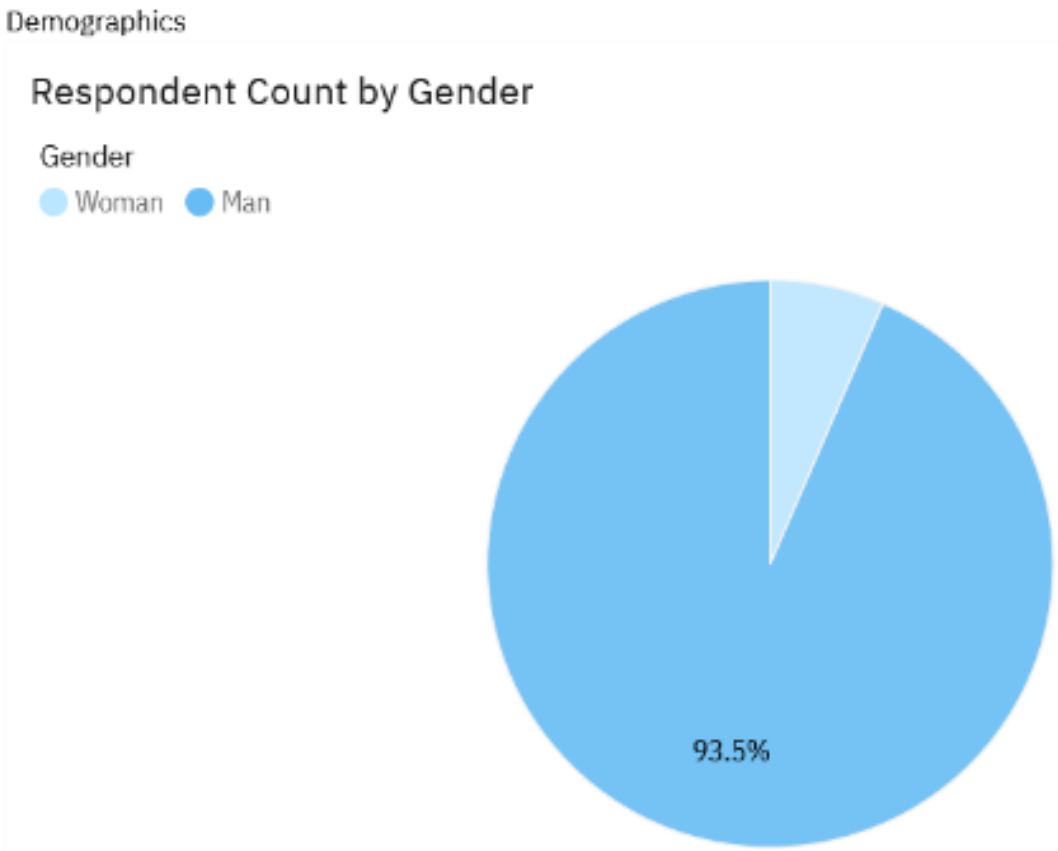
Developers are looking for 3 main factors when choosing languages and technologies:

1- Languages that are syntactically simple.

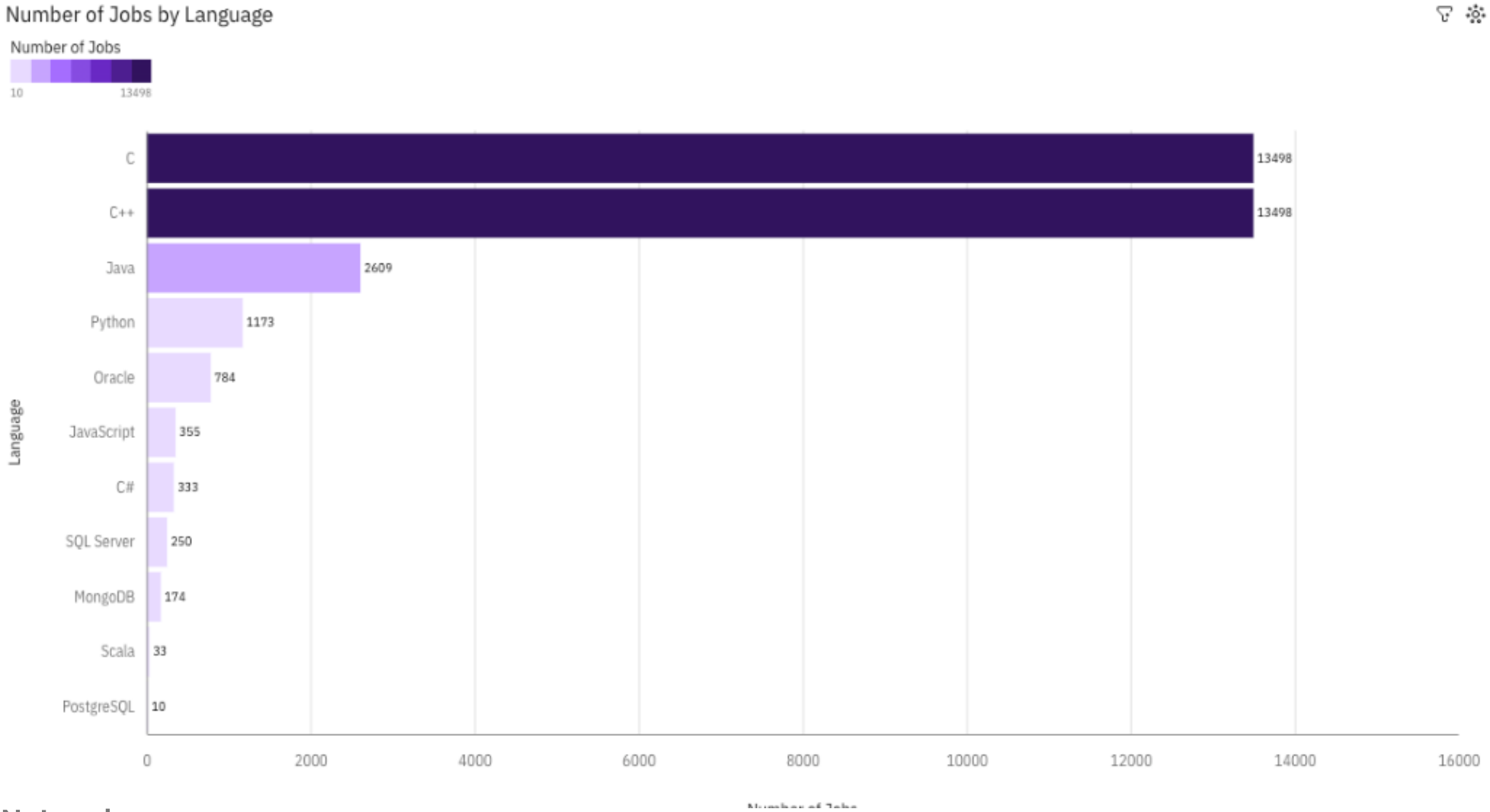
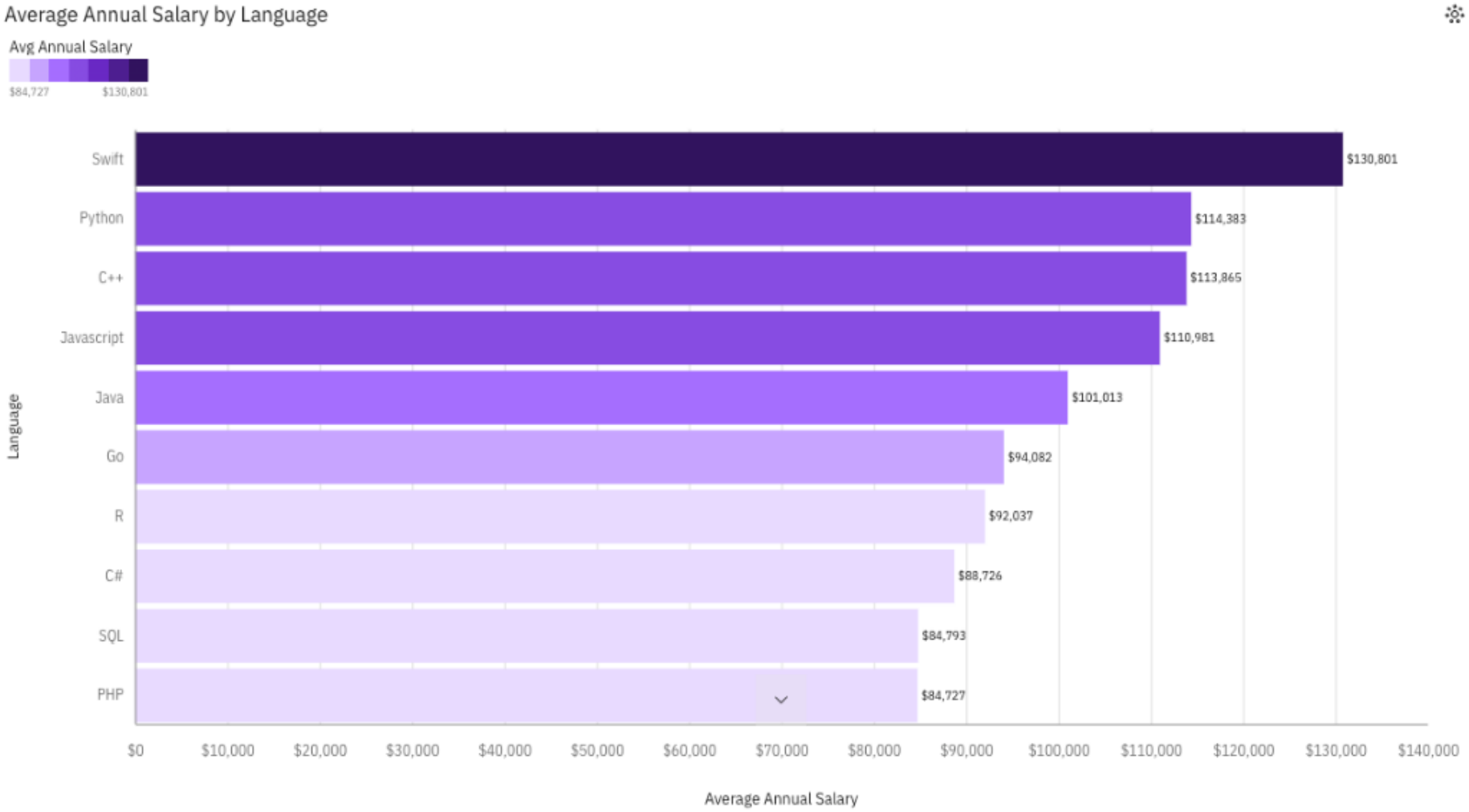
2-Tools that require less overhead and are more declarative rather than imperative.

3-Tools that are less error-prone which can be accomplished by Typing.

APPENDIX


Demographics
Respondent Count by Gender
Gender
Woman
Man
93.5%

JOB POSTINGS



POPULAR LANGUAGES