Stack Overflow Survey Analysis

Aqil Helmi Wan Nordin

6th October 2025

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EXECUTIVE SUMMARY

- This report provides a data-driven perspective on the emerging and future technology skills landscape, aimed at top managements in strategic workforce planning and capability development.

- To stay competitive in the rapidly evolving technology landscape, this analysis identifies the trends of emerging and future technology.

- Primary data source for this study is the Stack Overflow Developer Survey, complemented by information from job postings and training portals.

- Performed structured data wrangling process.

- JavaScript, Python, and PostgreSQL are the core technologies shaping the current and future landscape.

INTRODUCTION

- To identify emerging and future skills requirement.

- Target Audience: Executive Leadership, HR strategists, Technology Consultants and Business Development Teams.

- Value: Provides data driven perspective on evolving technology landscape.

- Purpose:
  - Identifying trends of technology preferences
  - Compensation trends
  - Job satisfaction factors
 - Workforce Demographics

METHODOLOGY

- Key data source is from Stack Overflow Developer Survey.

- Data sources are developer survey, job postings and training portals.

- Data collected through surveys, APIs and web scraping.

- Data wrangling process:
  - Finding and removing duplicates.
  - Finding and handling missing values.
  - Normalizing data.
  - Exploratory data analysis to understand data patterns, characteristics and to remove outliers for better analysis.
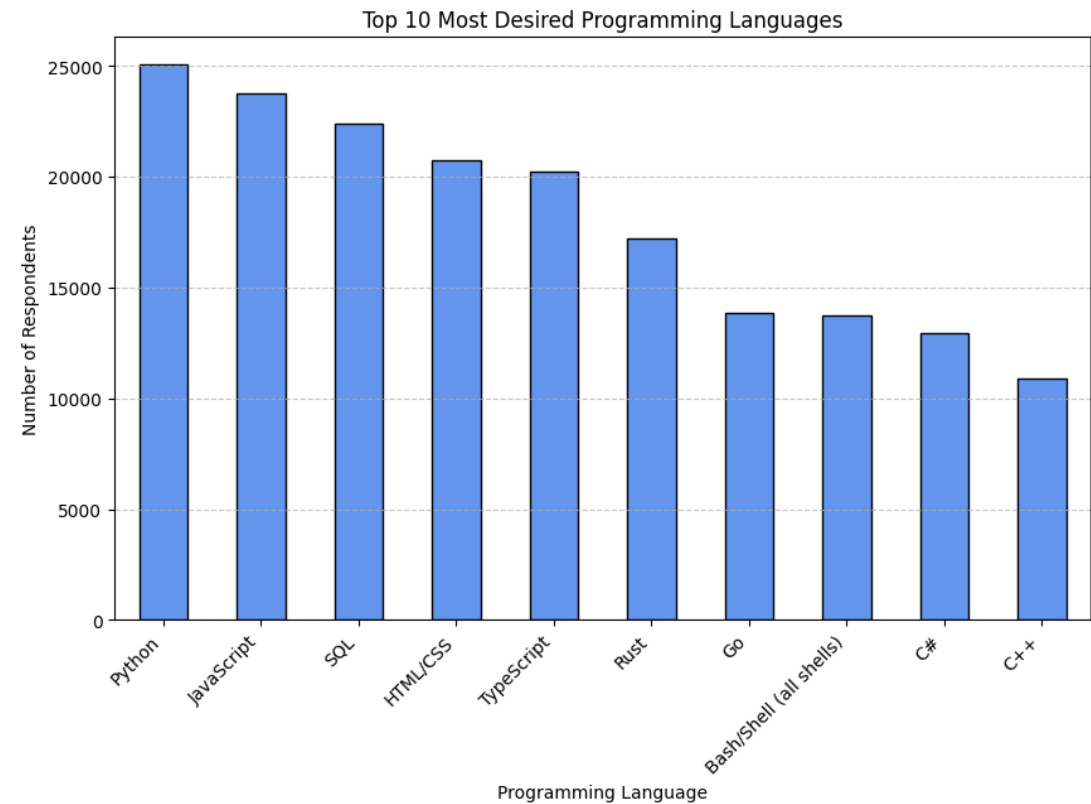
PROGRAMMING LANGUAGE TRENDS

Current Year

Top 10 Programming Languages for current year

Next Year

Top 10 Most Desired Programming Languages
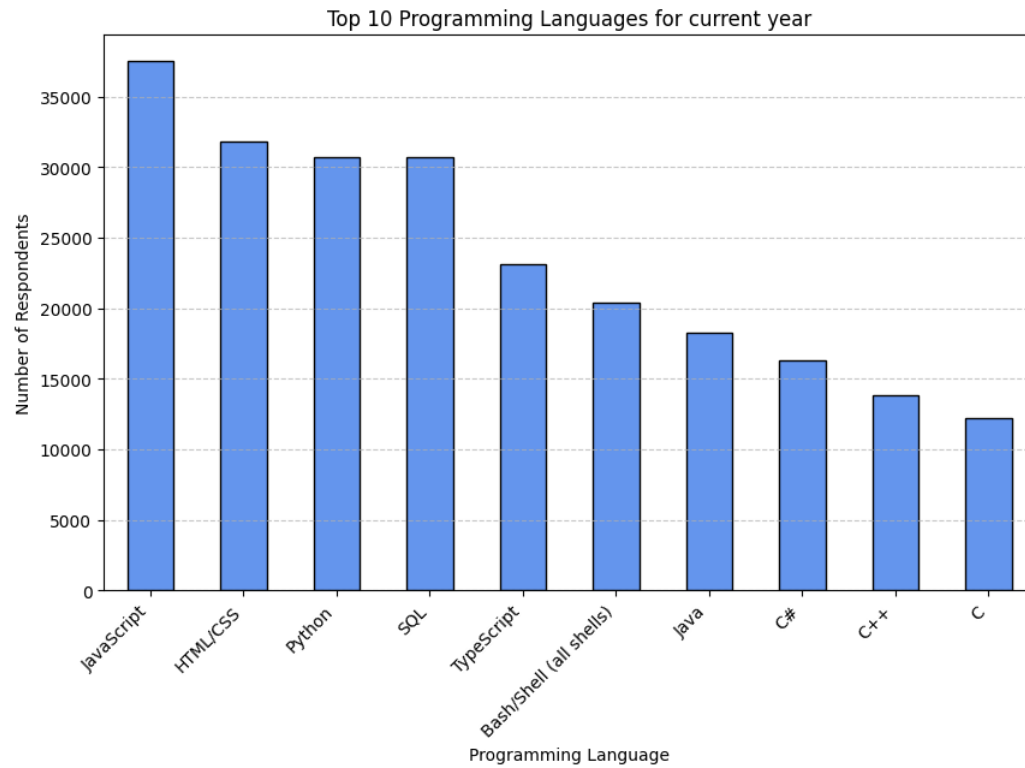
# PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Top for current year is JavaScript.
- Top for future language to learn is Python.
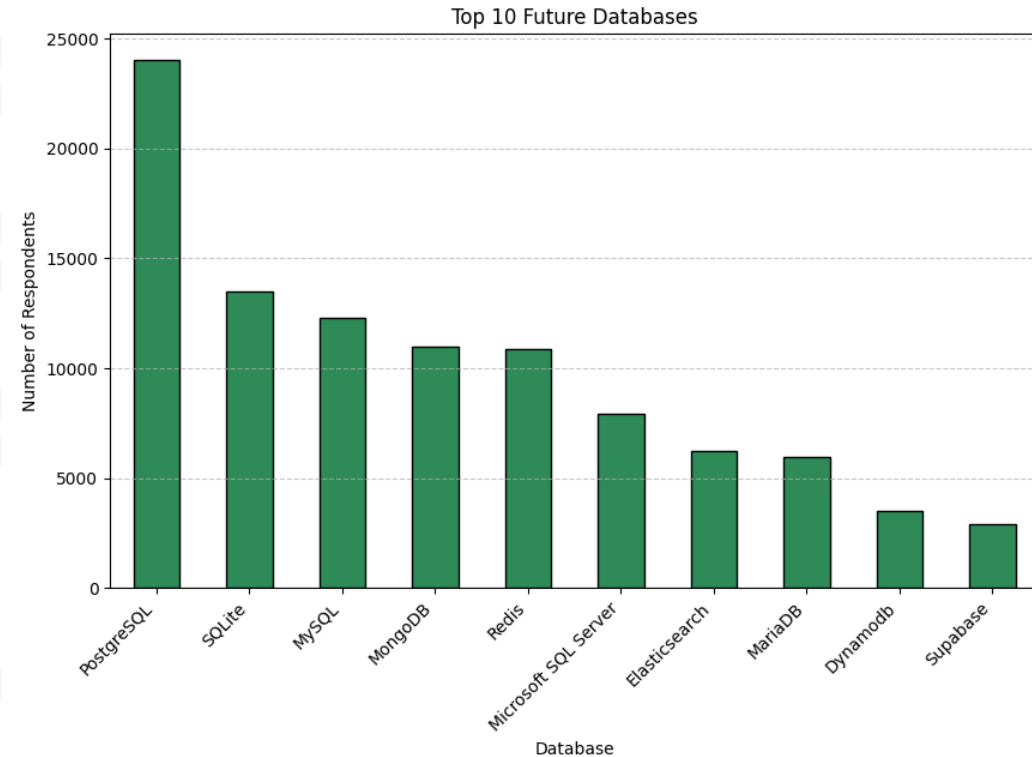- JavaScript is the second most desired language.

Implications

- JavaScript is still relevant for upcoming years.
- Python is the most desired language people want to learn.
- Python is a must learn language next year to keep up with the trend.

DATABASE TRENDS

Current Year

Top 10 Databases for current year

Next Year

Top 10 Future Databases
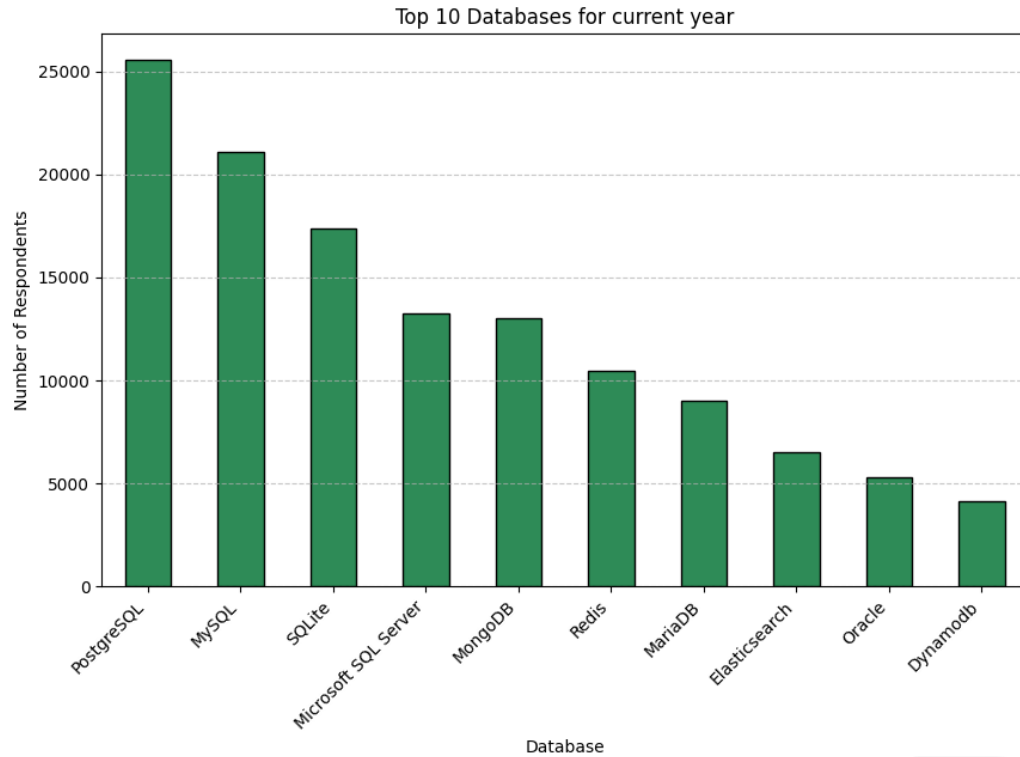
DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Top for current year is PostgreSQL.
- Top for upcoming years is PostgreSQL.
- Oracle is in the top 10 for current year databases.

Implications

- Essential to learn PostgreSQL as it is the top for current and upcoming years.
- PostgreSQL will still be relevant for upcoming years.
- Oracle is not relevant for upcoming years as it is not in the top 10 for future databases people want to learn.

JOB POSTINGS

Number of Job Postings by Technology

Number of Job Postings by Location
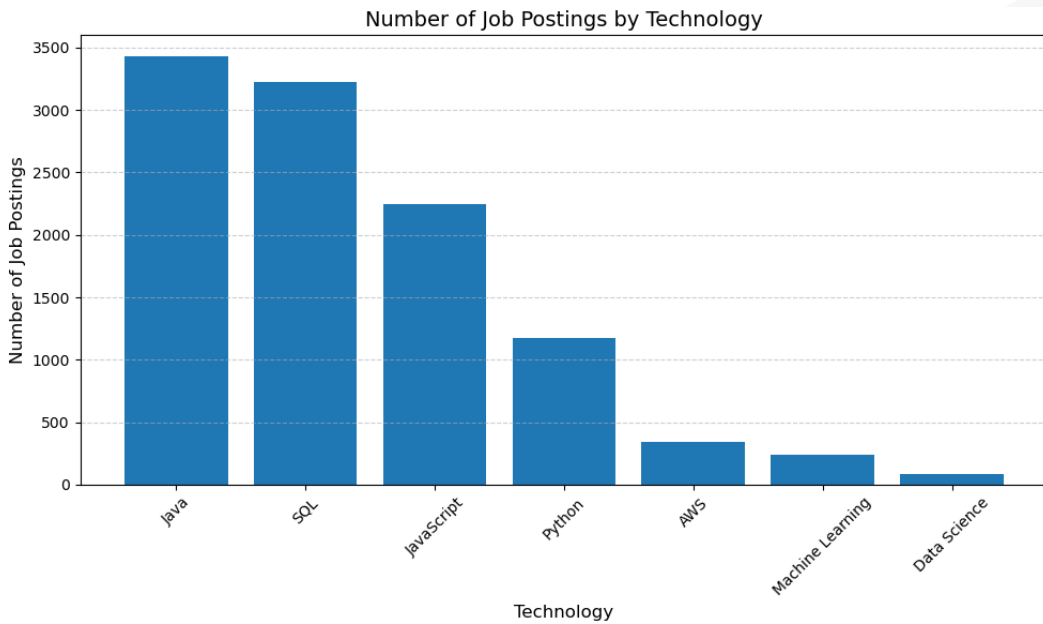
- The graph displays number of job postings by technology.
- The highest number of job postings available by technology is Java.
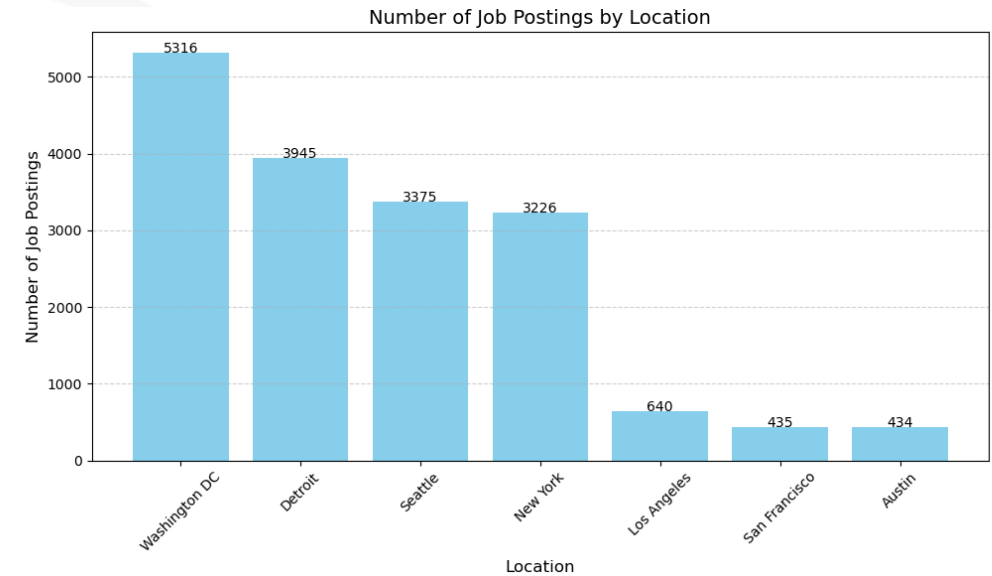
- The graph displays number of job postings by location.
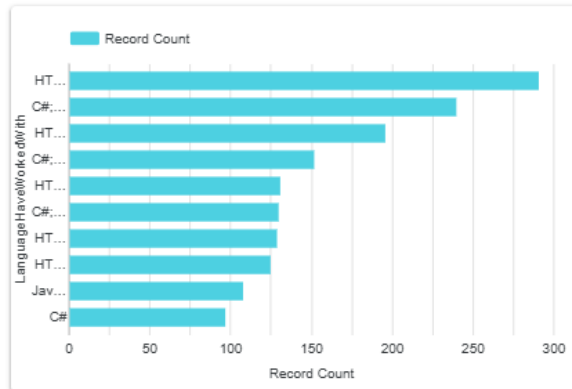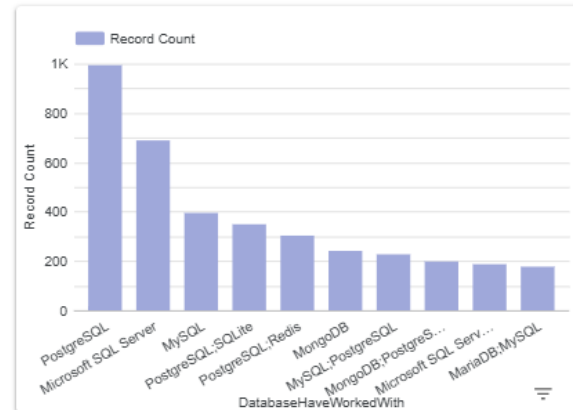- The highest number of job postings available by location is Washington DC.

DASHBOARD

DASHBOARD TAB 1 – CURRENT TECHNOLOGY
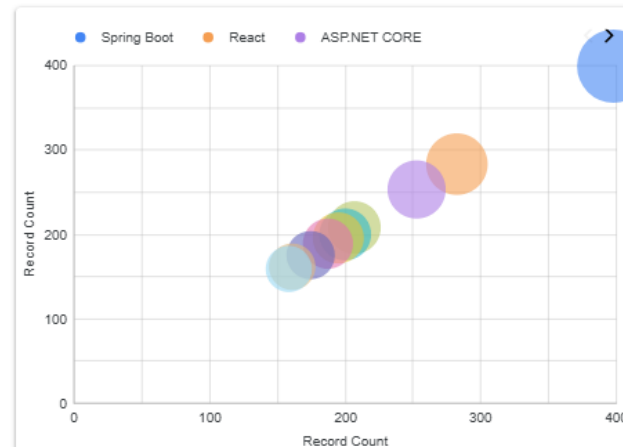
DASHBOARD TAB 2 – FUTURE TECHNOLOGY
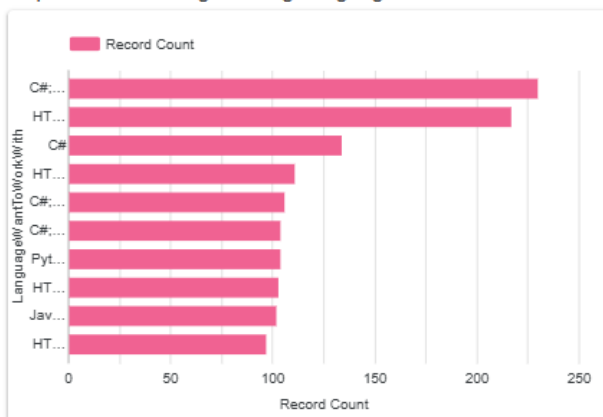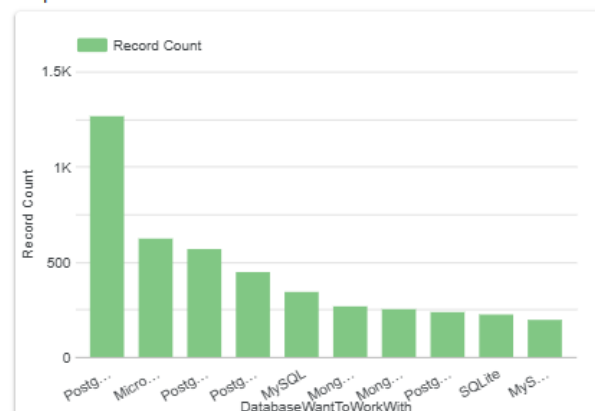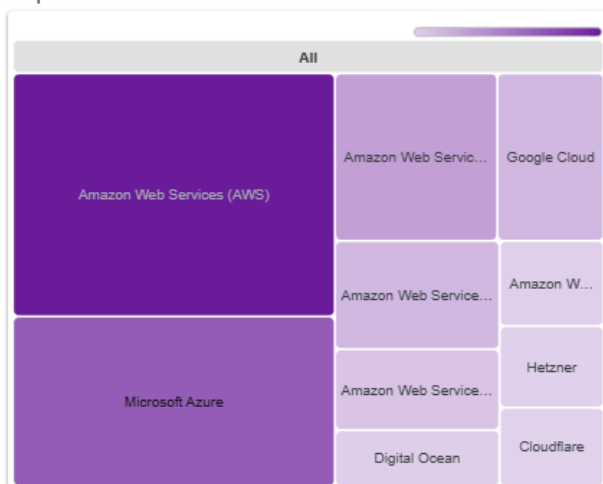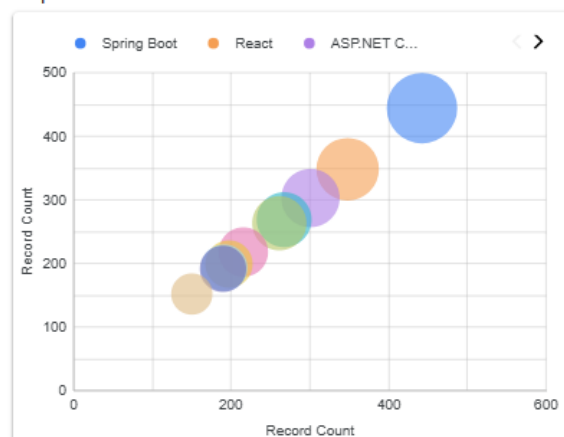
DASHBOARD TAB 3 - DEMOGRAPHICS
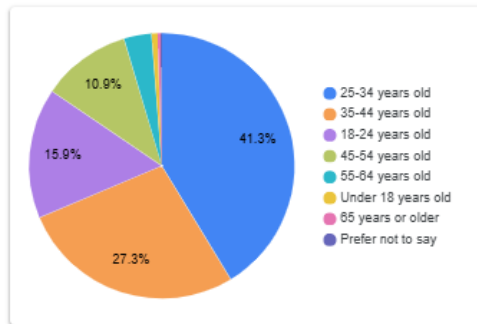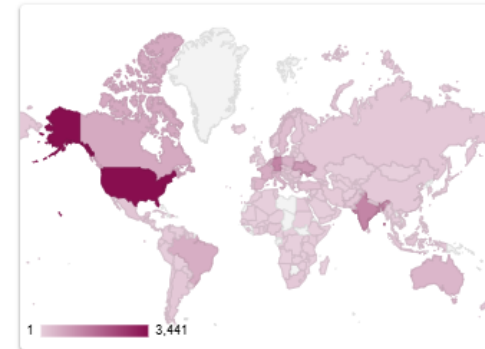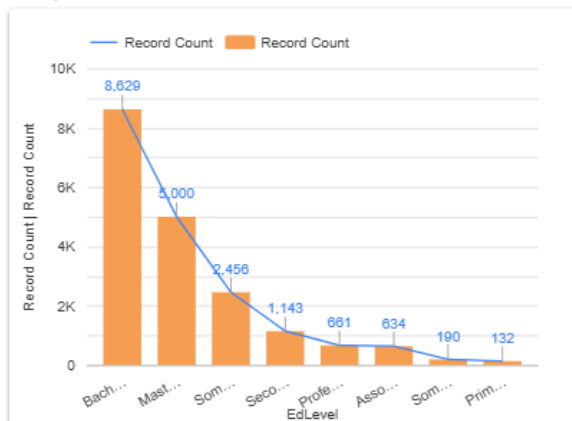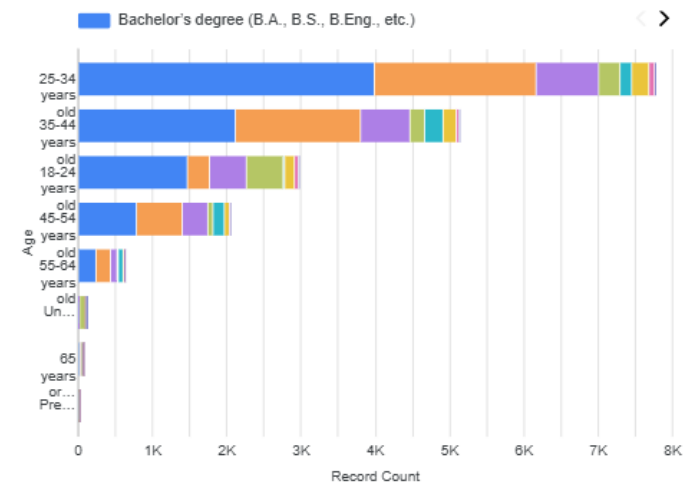
DISCUSSION

- **Current Technology Tab**
  - Top Language is JavaScript
  - Top Database is PostgreSQL
  - Top Platform is Microsoft Azure
  - Top Webframe is Spring Boot

- **Future Technology Tab**
  - Top Language is Python
  - Top Database is PostgreSQL
  - Top Platform is Amazon Web Services (AWS)
  - Top Webframe is Spring Boot

- **Demographics Tab**
  - Majority of the survey participants is around 25-34 years old.
  - Most of the participants are from United States of America.
  - Most of them has a bachelors degree.

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OVERALL FINDINGS & IMPLICATIONS

Findings

- JavaScript is popular now and will maintain its popularity in upcoming years.
- Python is the most desired programming language and might surpass JavaScript at some point.
- PostgreSQL is the top database now and will maintain its standing in upcoming year.

Implications

- Learning JavaScript, Python and PostgreSQL will definitely build a solid portfolio for an individual.
- Client can hire individuals with the mentioned skillset in order to keep up with the emerging technology trends.
- Based on the findings, client can start to adapt with the technology trends for better adaptability and to build a stable community within the company.

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CONCLUSION

- The technology trends definitely highlighted that JavaScript, Python and PostgreSQL surely dominates the technology landscape.

- Reflects both current industry demands and future learning priorities.

- Client need to adapt hiring, training, and workforce strategies to align with evolving market demands.

- Client can build a skilled, adaptable workforce ready to thrive in the future technology landscape with the insights.

APPENDIX

Count of Job Satisfaction Scores
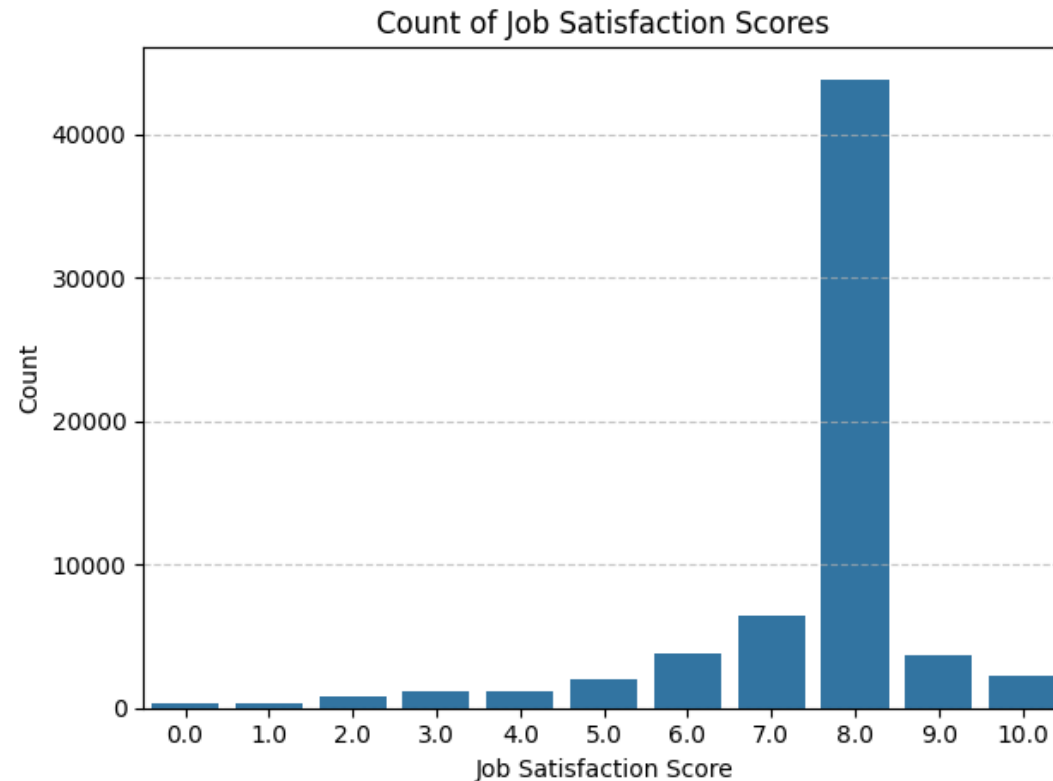
- The graph displays the count of job satisfaction scores.

- Majority of the participants are satisfied with their jobs.

POPULAR LANGUAGES

Average Annual Salary by Programming Language
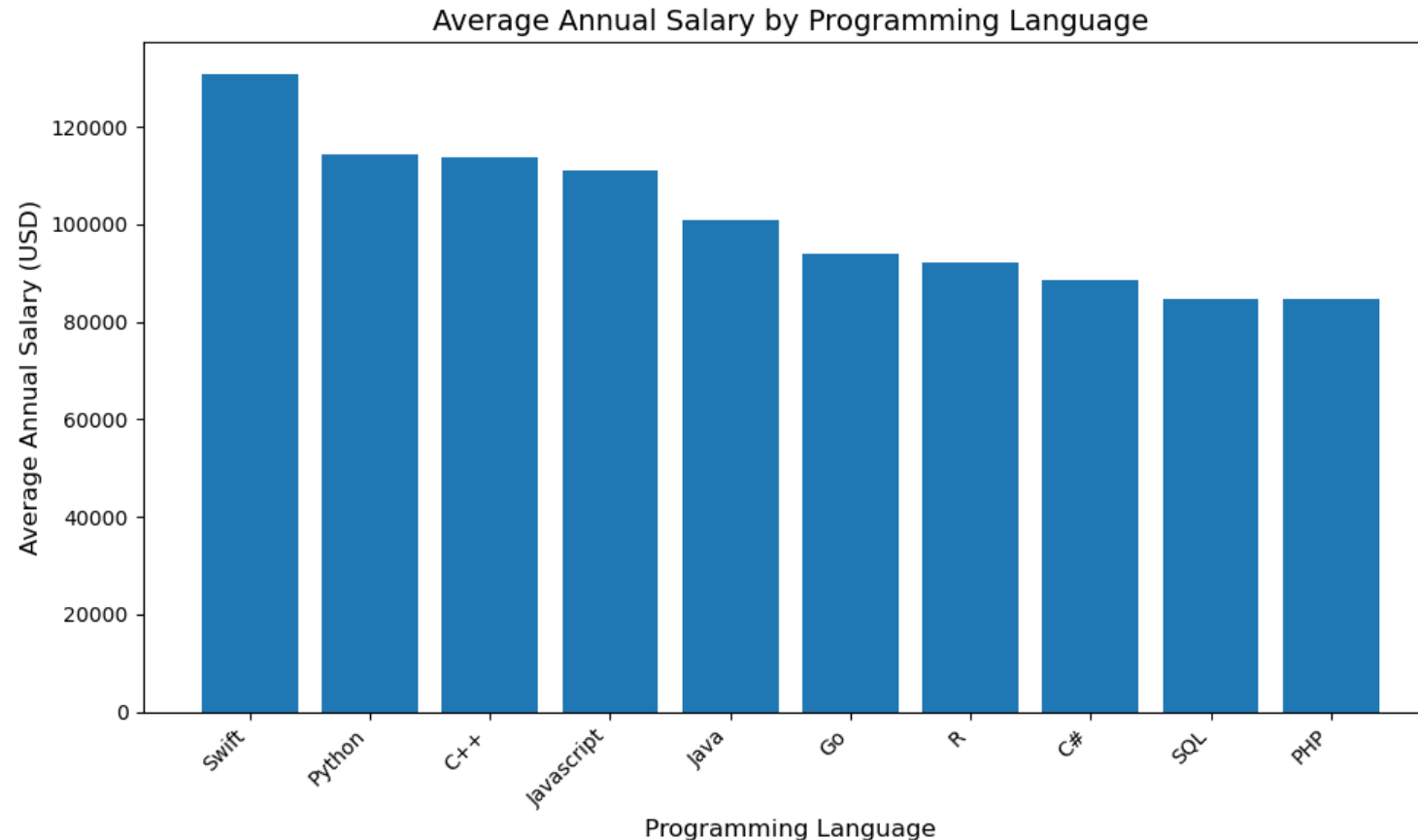
- The graph displays the average annual salary in USD against the programming language.
- The highly paid language on average is Swift