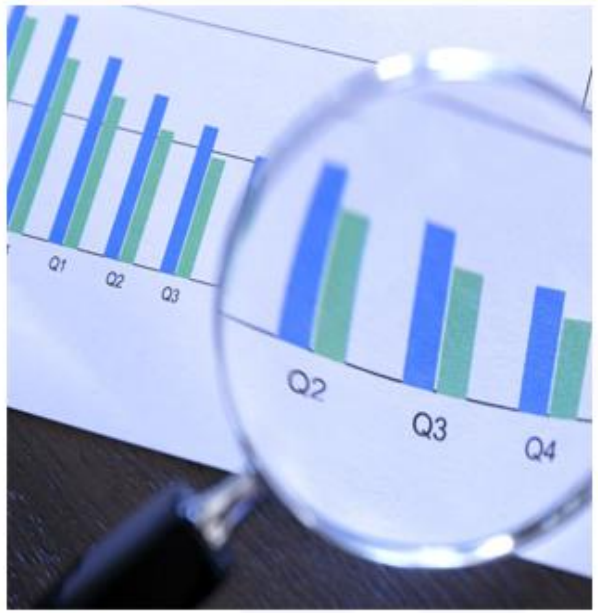


Developer Survey 2019 Analysis

Jallal Isa

9/05/2024

OUTLINE

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

EXECUTIVE SUMMARY

- Current Technology Usage
  - Language
  - Database
  - Platform
  - Web Frame
- Future Technology Usage
  - Language
  - Database
  - Platform
  - Web Frame
- Demographic Survey
  - Gender
  - Country
  - Age
  - Education level

INTRODUCTION

- Analyze trends in technology for developers around the world
- Goal of the Analysis - Identify the followings:
  - Top programming languages
  - Top databases
  - Top platforms
  - Top web frames
- Targeted Audience:
  - Developers
  - Information technology workers
  - Computer science community

METHODOLOGY

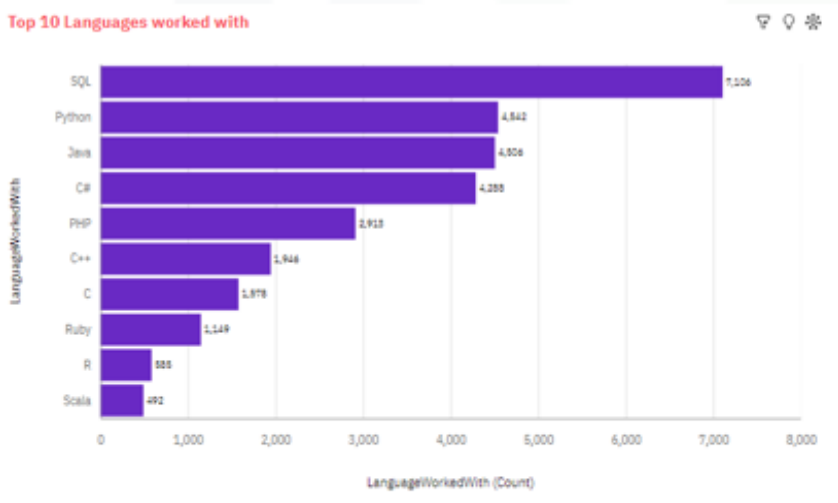
- Data Source – Dataset
  - Stack Overflow 2019 Developer Survey
- Languages Used
  - Python
  - SQL
- Data Cleaning
  - Pandas
  - NumPy
- Data Exploration
  - Matplotlib
  - Pandas
  - SQL Queries
- Data Visualization
  - Python libraries
  - IBM Cognos Analytics
- Presentation

RESULTS

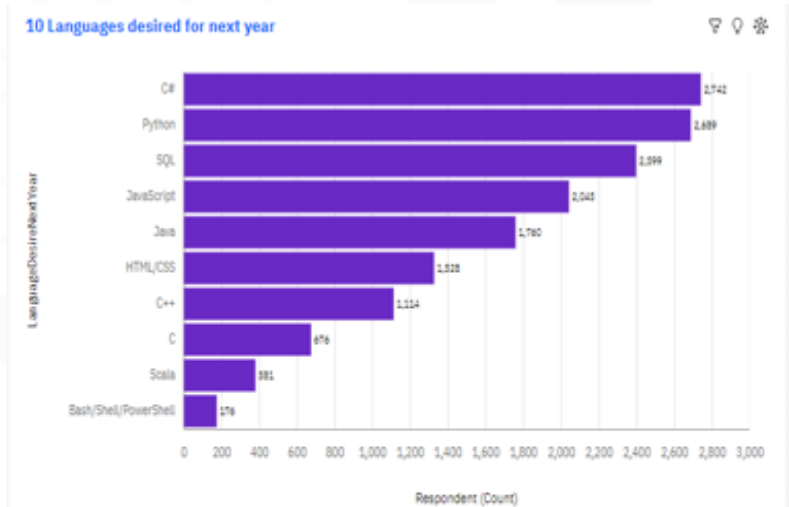
Respondent	Languag...kedWith	LanguageDe...eNextYear	DatabaseWorkedWith	DatabaseDe...eNextYear	PlatformWorkedWith
4	C	C	MySQL	MySQL	Linux
4	C++	C#	SQLite	SQLite	Windows
4	C#	JavaScript	Null	Null	Null
4	Python	SQL	Null	Null	Null
4	SQL	Null	Null	Null	Null
9	C#	C	PostgreSQL	Redis	Docker
9	Python	Ruby	Null	Null	MacOS
9	Ruby	Rust	Null	Null	Slack
9	SQL	TypeScript	Null	Null	Null
13	PHP	Rust	MySQL	Null	IBM Cloud or Watson

PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

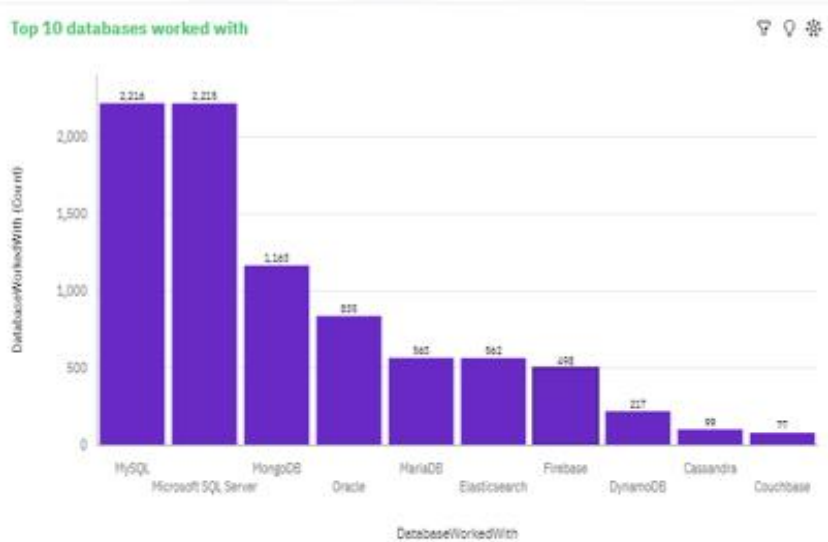
- SQL is the top one
- Python and Java are getting popular
- Scala and R are the least desired
- C# is less desired compared to next year trend

Implications

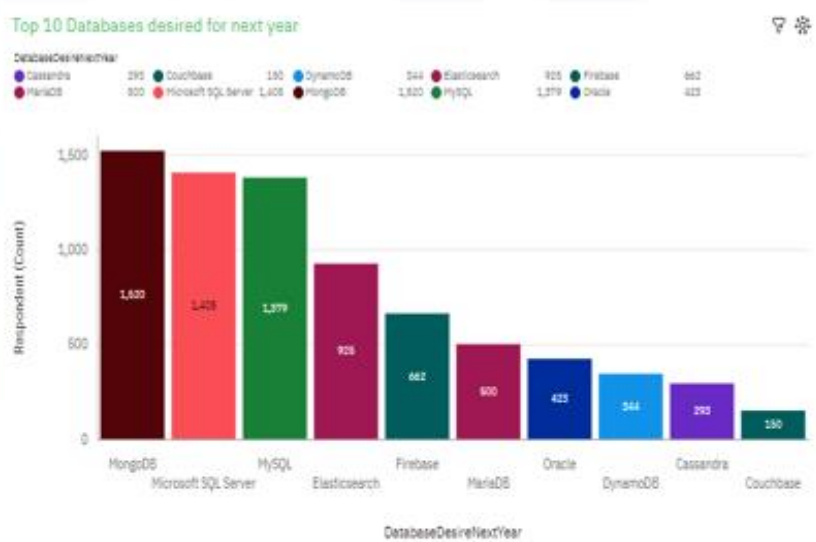
- Python and SQL are crucial for developers
- Scala looks to remain as one of least favorites for tech industry
- Platforms where a language is used to write has impact on the overall trend

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

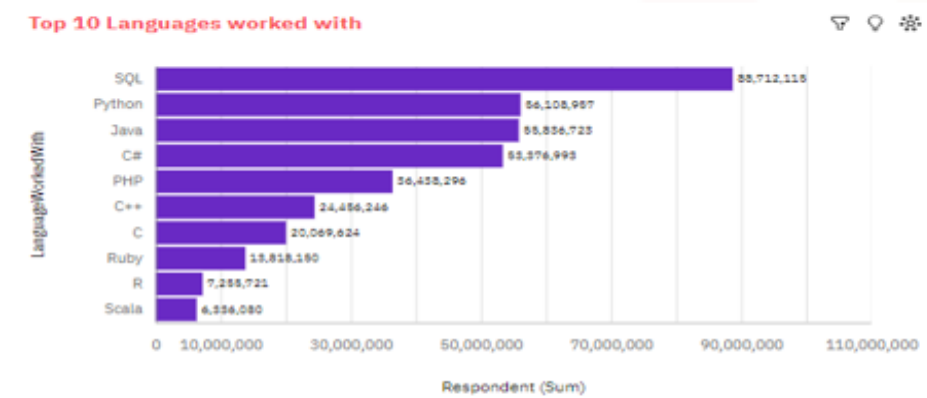
Findings

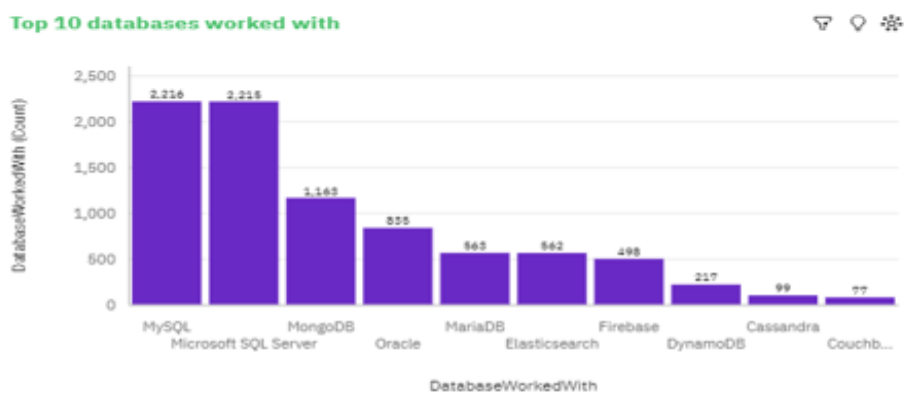
- MSQL and SQL Server are very favorable
- Couchbase looks to be the least favorite for respondents
- MongoDB is getting popular among developers

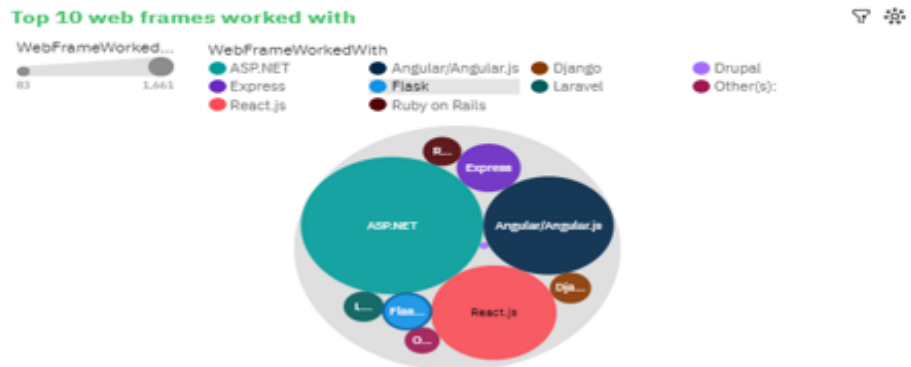
Implications

- Non-Relational DBs like MongoDB are becoming widely used
- Relational DBs like MYSQL appear to be still the favorites
- Big data technology will still need both, relational and non-relational DBs

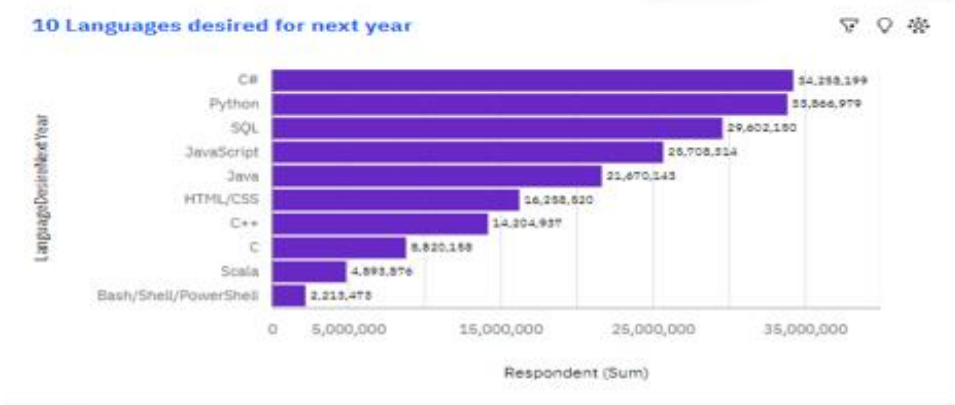
Current Technology Usage

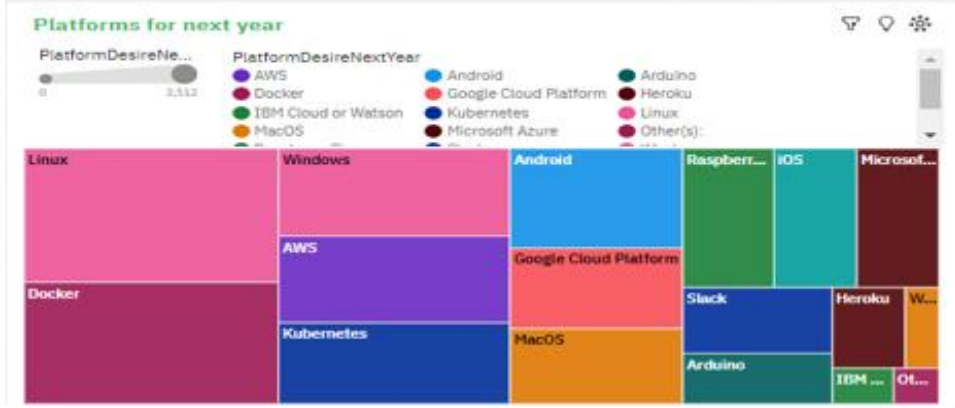


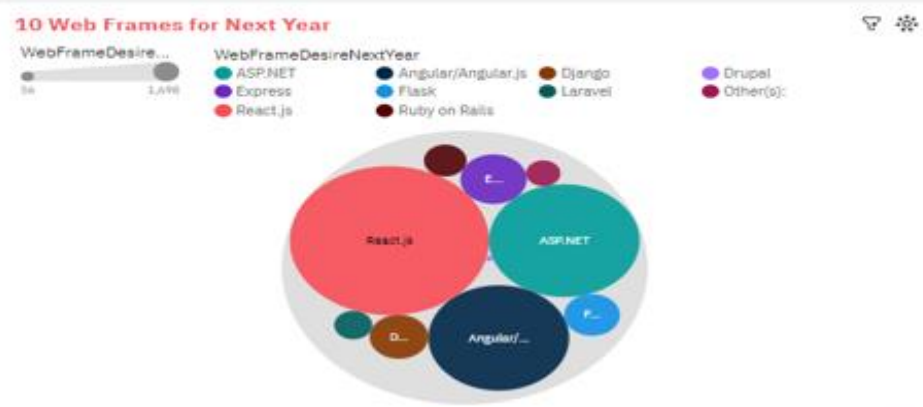




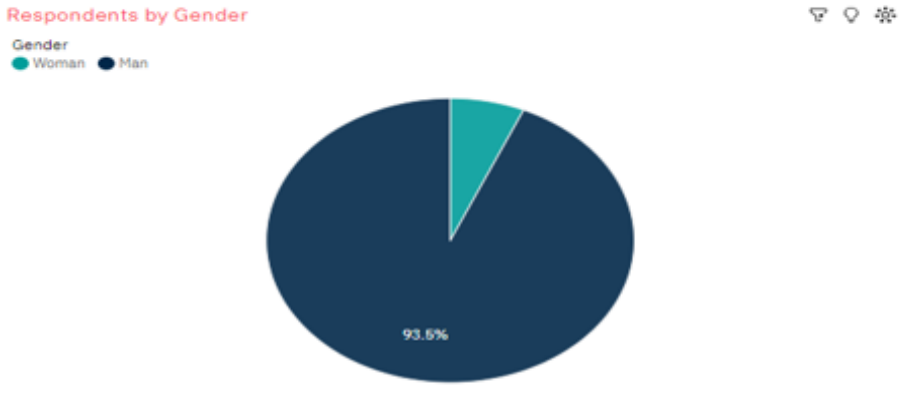
Future Technology Trend

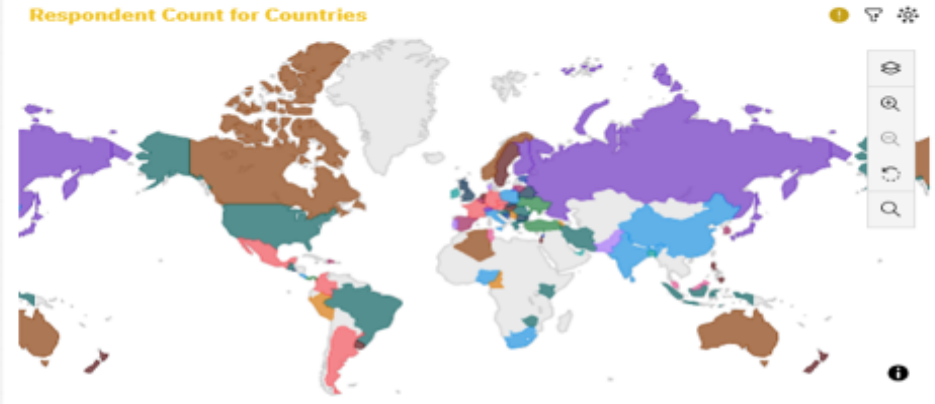


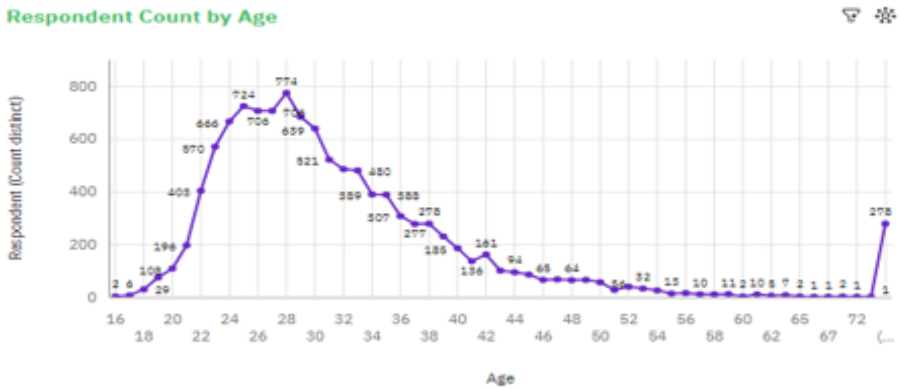


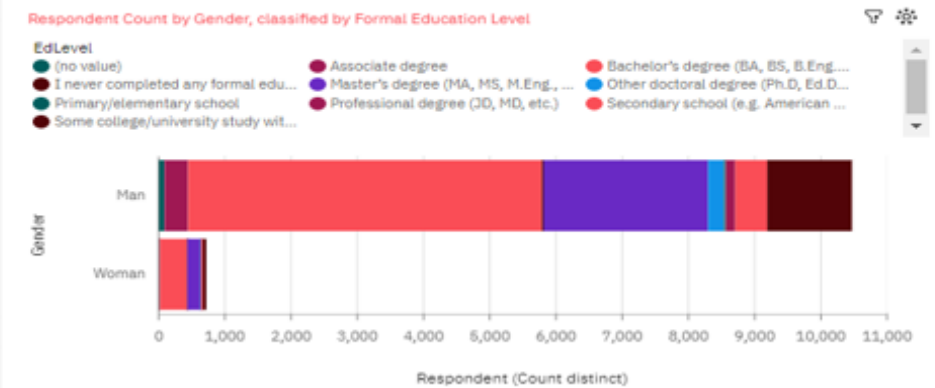


Demographics









DISCUSSION

- Technology Usage and Future trends
  - Importance of tech on coders
  - Impact of new DBs, servers and languages
- Factors such as Gender, Age, Education
  - Role of education on coding developers
  - Power of tech on all people
- Technology gaps in developing nations
  - Reducing gaps in education between men and women
  - Support for developing nations in tech industry
- Skills and impact of training
  - Training programs and the need for new skills
  - Online learning opportunities for coders

OVERALL FINDINGS & IMPLICATIONS

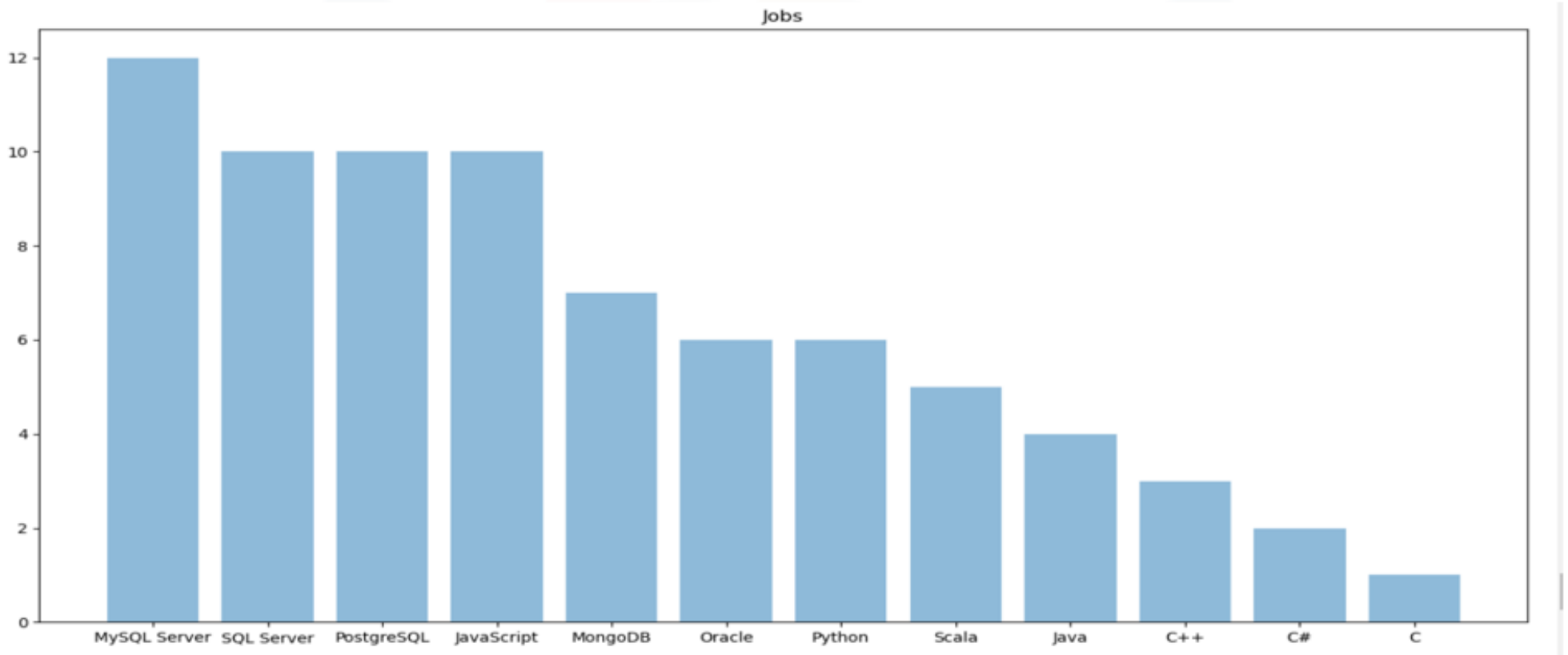
Findings

- Technology changes in fast pace
- Platforms like AWS are growing
- Massive gender gaps in tech

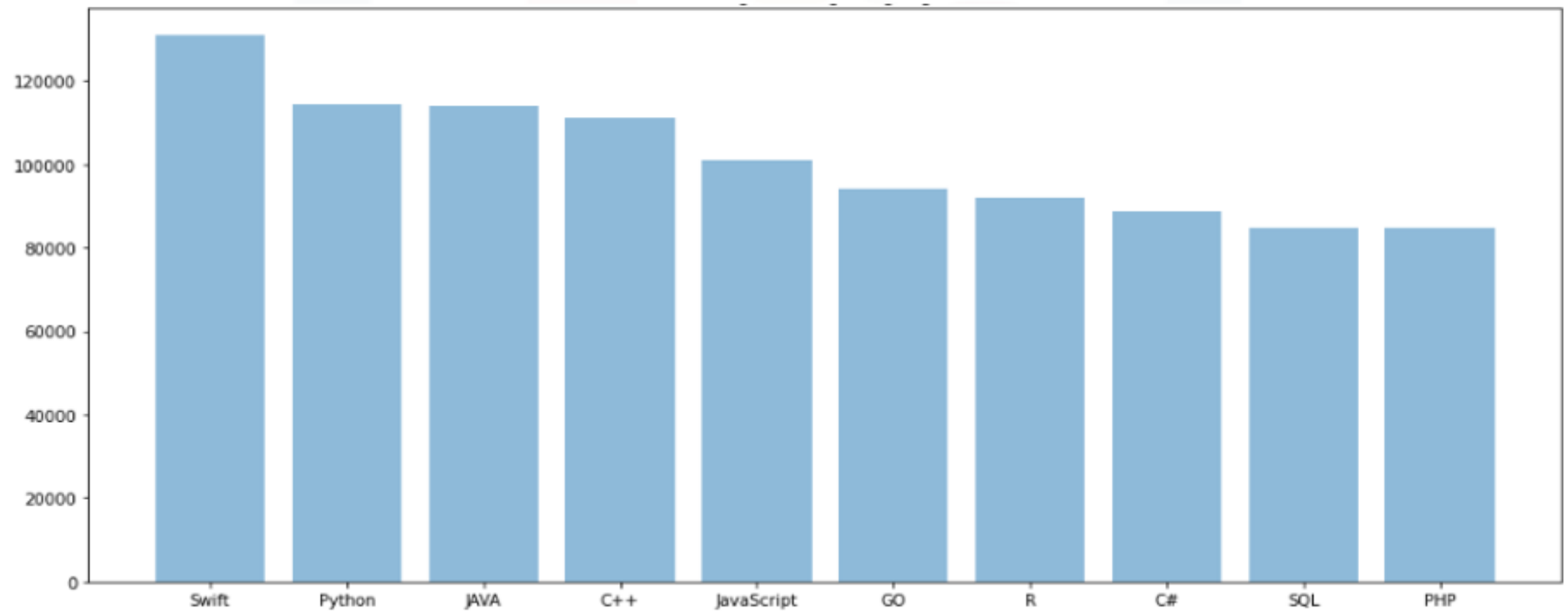
Implications

- Developers must adapt to latest technologies
- Developing countries can benefit from advanced ones in tech
- More room should be open to close gender gaps in tech, this include training, bonuses

JOB POSTINGS by Programming Language



POPULAR LANGUAGES by Salary



CONCLUSION

- Technology Trends and Future
  - Emerging Technologies: Dive into the latest advancements in tech
  - Exploring new tech and business opportunities within tech industry
- Teaching new tech
  - Hands-On Learning: Importance of practical experience
  - Strategies for teaching complex technical concepts
- Programming Languages, platforms, databases
  - Popularity and use cases of different programming languages
  - Guidance on choosing the right tools and technologies for specific projects
- Education, Training and Skills
  - Skill development to stay relevant in the rapidly evolving tech
  - In-demand tech skills and strategies to address the skills gap
- Future of AI on technology
  - Explore the potential of AI in various fields
  - Ethical implications and security risks of AI development