Future Skill Requirements

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OUTLINE

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EXECUTIVE SUMMARY

- Current technology usage
  - Language
  - Database
  - Platform
  - Web frame

- Future technology trends
  - Language
  - Database
  - Platform
  - Web frame

- Demographic surveys
  - Gender
  - Age
  - Country
  - Education level

INTRODUCTION

- Analyze the current usage and future trends of technology based on programming languages, databases, platforms and web frames around the world.

- Objective:
  - Identify the top usage of technology
  - Identify the future trends of technology and the required skills in IT industry.
  - Observe the demographic pattern in IT sectors around the world.

- Audience: Programmers, IT professionals, CSE students

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METHODOLOGY

- Data collection
- Data wrangling
- Data exploration, cleaning and preparation
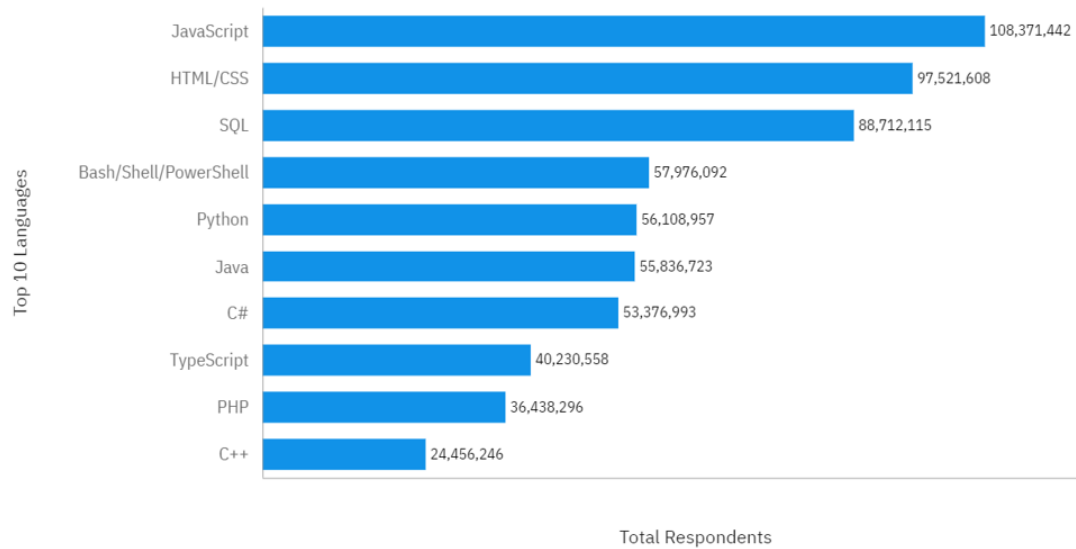- Data visualization by python and IBM cognos
- Presentation

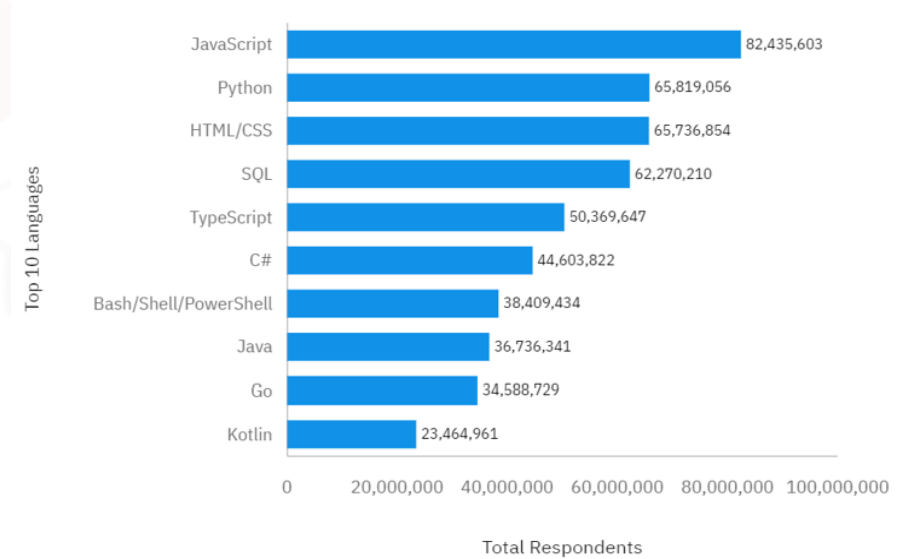# RESULTS

PROGRAMMING LANGUAGE TRENDS

Current Year

Top 10 programming languages

Language	Total Respondents
JavaScript	108,371,442
HTML/CSS	97,521,608
SQL	88,712,115
Bash/Shell/PowerShell	57,976,092
Python	56,108,957
Java	55,836,723
C#	53,376,993
TypeScript	40,230,558
PHP	36,438,296
C++	24,456,246

Top 10 Languages — Total Respondents

Next Year

Top 10 programming languages

Language	Total Respondents
JavaScript	82,435,603
Python	65,819,056
HTML/CSS	65,736,854
SQL	62,270,210
TypeScript	50,369,647
C#	44,603,822
Bash/Shell/PowerShell	38,409,434
Java	36,736,341
Go	34,588,729
Kotlin	23,464,961

Top 10 Languages — Total Respondents

PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- JavaScript

- HTML/CSS

- SQL

Implications

- JavaScript
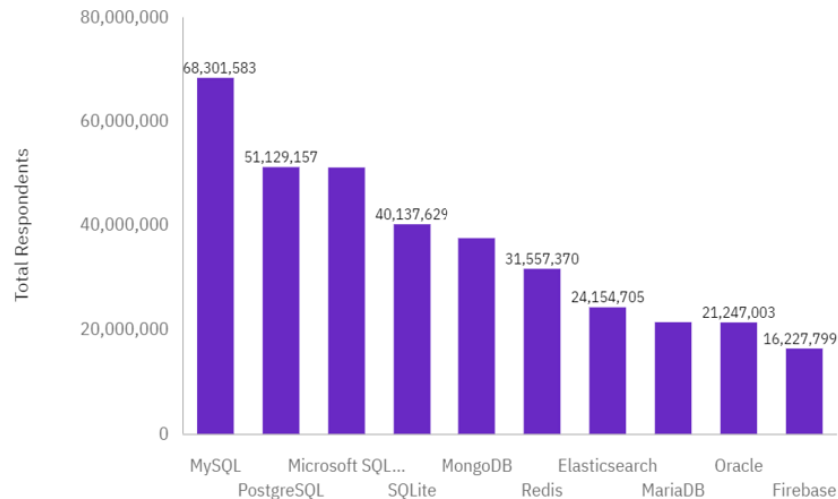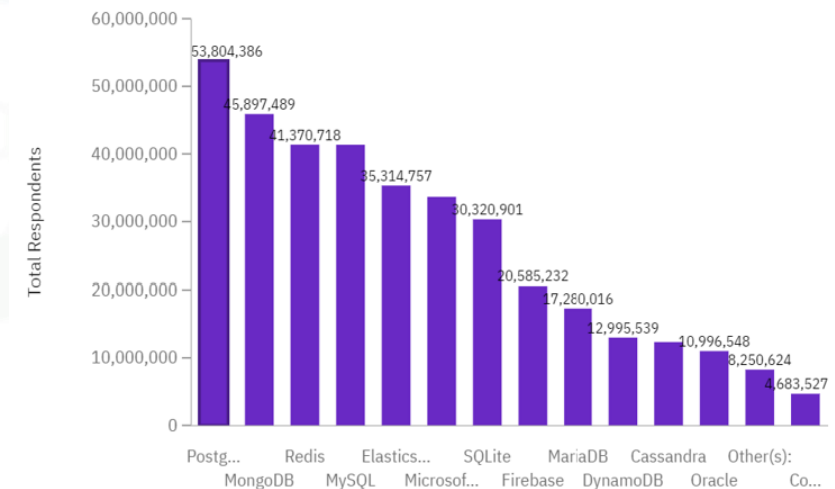
- Python

- HTML/CSS

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DATABASE TRENDS

Current Year

Top 10 databases

Next Year

Top 10 databases

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DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL

- PostgreSQL

- Microsoft SQL

Implications

- PostgreSQL

- MongoDB

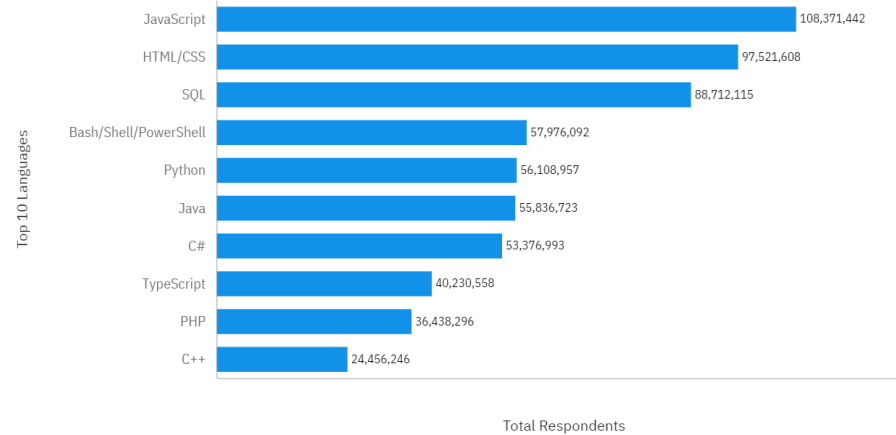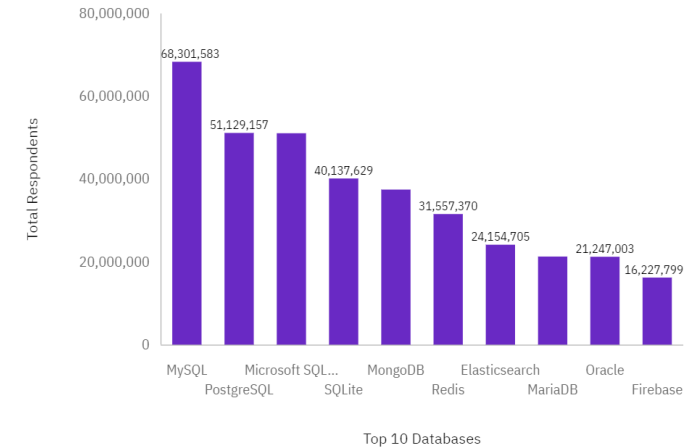- Redis

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DASHBOARD

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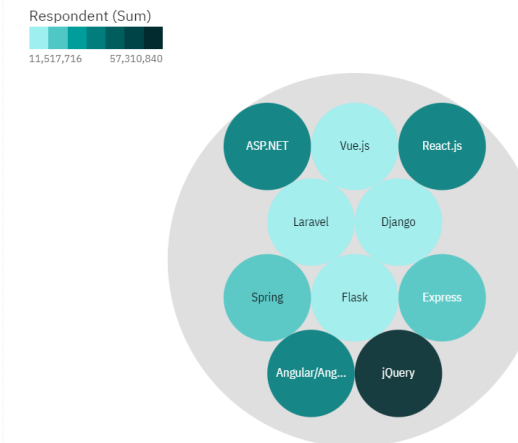
DASHBOARD TAB 1

Top 10 Languages Worked With

Language	Total Respondents
JavaScript	108,371,442
HTML/CSS	97,521,608
SQL	88,712,115
Bash/Shell/PowerShell	57,976,092
Python	56,108,957
Java	55,836,723
C#	53,376,993
TypeScript	40,230,558
PHP	36,438,296
C++	24,456,246

Top 10 Databases Worked With

Database	Total Respondents
MySQL	68,301,583
PostgreSQL	51,129,157
Microsoft SQL...	51,129,157
SQLite	40,137,629
MongoDB	31,557,370
Redis	24,154,705
Elasticsearch	21,247,003
MariaDB	21,247,003
Oracle	16,227,799
Firebase	16,227,799

Platform Worked With sized by Total Respondents

Respondent (Sum)
2,532,293   72,858,619

Top 10 Webframes Worked with Hierarchy colored by Total Respondents

Respondent (Sum)
11,517,716   57,310,840
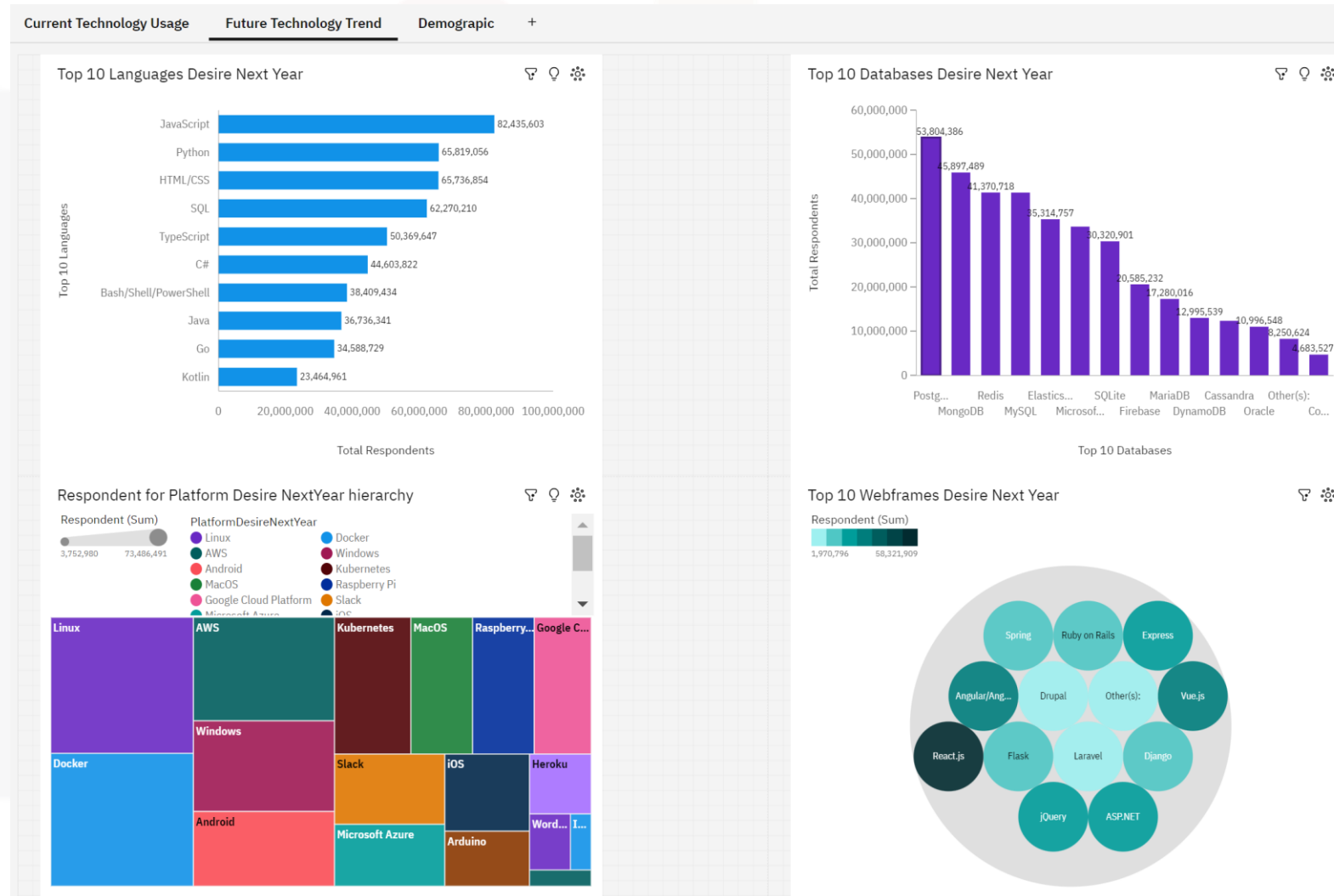
DASHBOARD TAB 2

DASHBOARD TAB 3
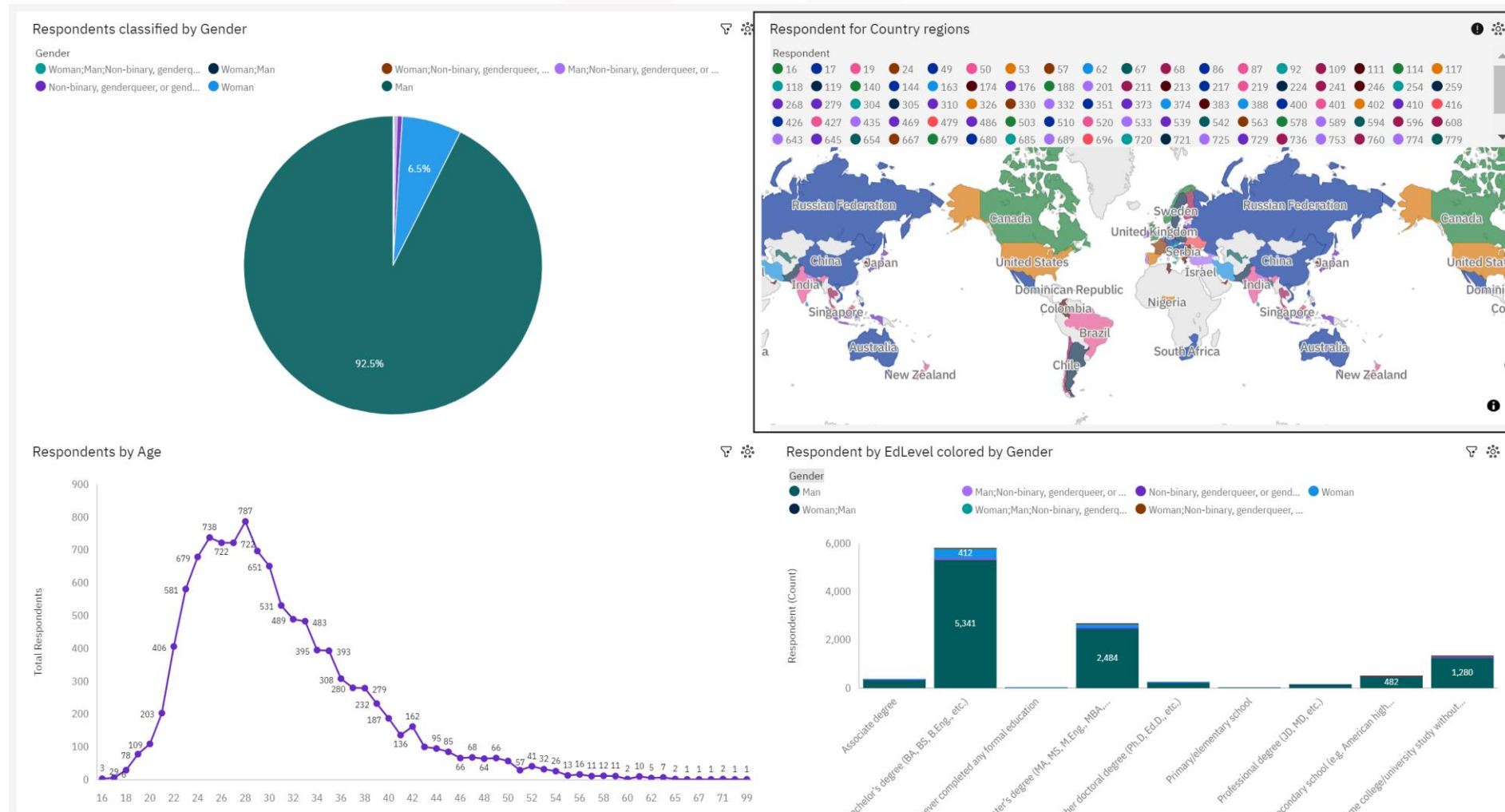
DISCUSSION

- Used the **Stack Overflow Developer Survey 2019 data** to create a dashboard that covers the **current technology usage** and the **future technology trends** for the following categories:
  - Top 10 programming languages
  - Top 10 databases
  - Top 10 Web frames
  - Desired platforms

- Gender, Age and education discriminations are observed in IT.

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OVERALL FINDINGS & IMPLICATIONS

Findings

- JavaScripts, Python, HTML/CSS and SQL are the most popular languages.

- PostgreSQL, Mongo DB and Redis are the most popular databases.

- Linux, Docker, AWS and Windows are the most popular platforms.

- There are age and gender discriminations.

Implications

- Programmers should always follow the latest trends of programming languages, databases, web frames and platforms.

- All the countries should get equal opportunities and need to explore and implement new technologies.

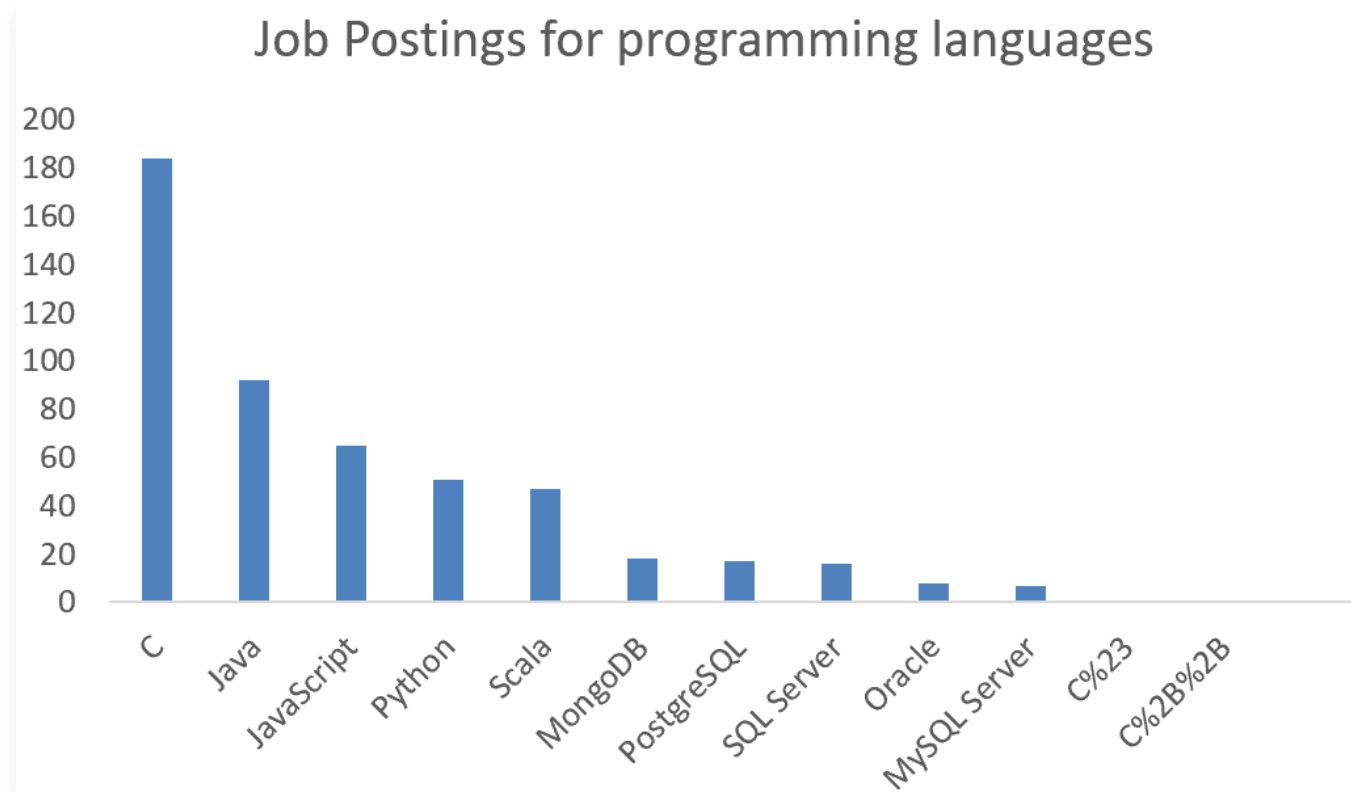- Age and gender should not be the constrains while implementing those technologies.

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CONCLUSION

- **Current usage and future trends of**
  - ➤ Top 10 programming languages
  - ➤ Top 10 databases
  - ➤ Top 10 Web frames
  - ➤ Desired platforms
  - ➤ Demographic changes

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APPENDIX

- IBM Cognos Dashboard Embedded (CDE) is an AI-fueled business intelligence service that supports the entire data analytics cycle, from discovery to operationalization.

- It provides users with data discovery capabilities to visually explore and interact with their data to identify the key insights for improving data driven decisions.

- Users can perform data discovery and then quickly assemble that information into interactive, visually appealing dashboards; all without the need of formal training.

JOB POSTINGS

Job Postings for programming languages

POPULAR LANGUAGES

Average Annual Salary