



IT Trends

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OUTLINE



- **Executive Summary**
- **Introduction**
- **Methodology**
- **Results**
 - Visualizations - Charts
 - Dashboard
- **Discussion**
 - Findings & Implications
- **Conclusion**
- **Appendix**

EXECUTIVE SUMMARY



- **Current Technology Usage Trend**
 - Language
 - Database
 - Platform
 - Web Frame
- **Desired Technology Usage Trend**
 - Language
 - Database
 - Platform
 - Web Frame
- **Demographics Survey**
- **Country & Gender Difference**

INTRODUCTION



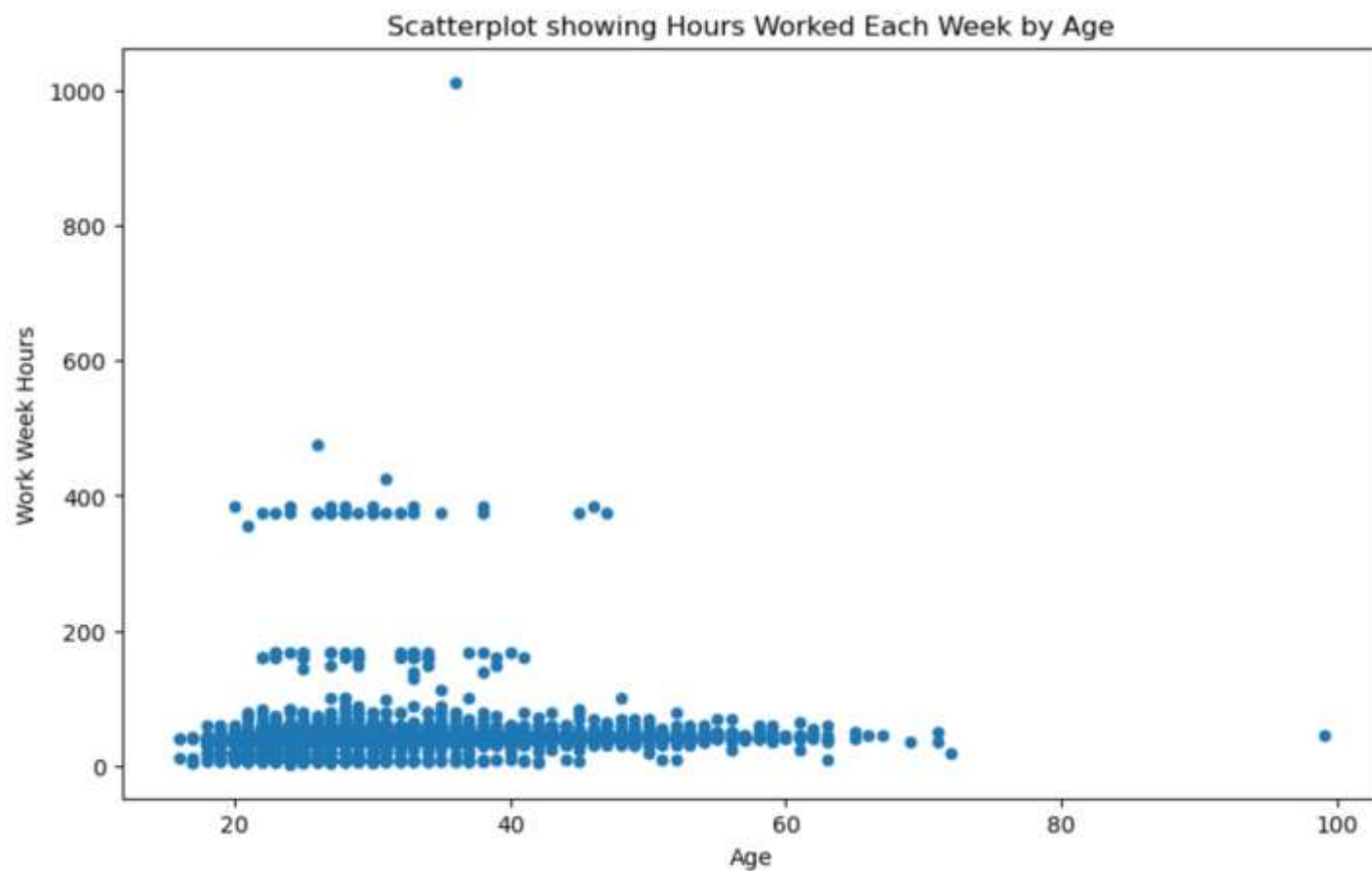
- **Analyze Current Trends in Technology**
- **Purpose of this Analysis**
 - Identify top skills in programming languages, databases, platforms, and web frames
 - Identify future skills requirements
 - Identify human resource gap in the industry
- **Audience for this presentation**
 - Programmers
 - IT Industry Leader
 - Computer Science Students

METHODOLOGY



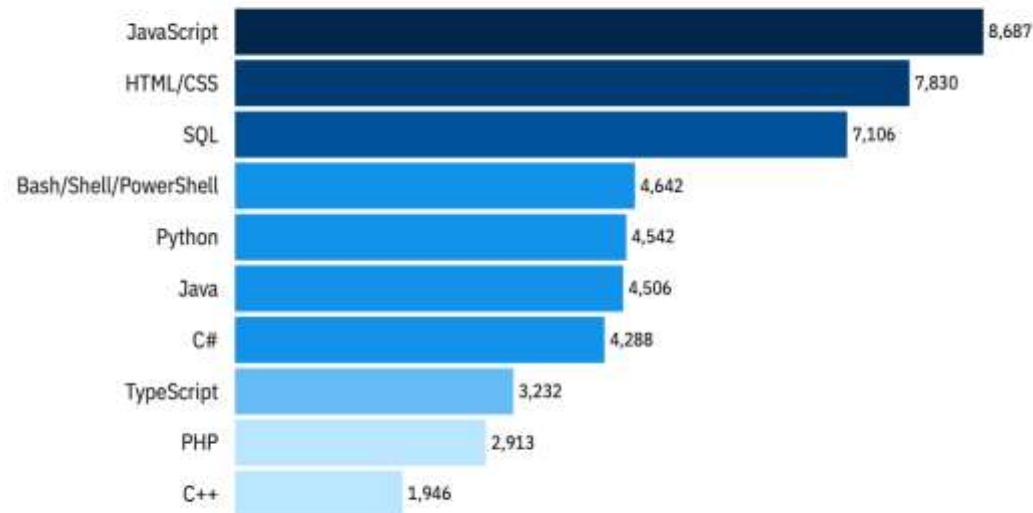
- **Data Wrangling**
 - GitHub job postings API using Python
 - Programming Languages annual salary
 - Stack Overflow Developer 2019 survey
- **Data Cleaning, Data Exploration**
 - Excel
 - Python
- **Data Visualization**
 - IBM Cognos
 - Tableau
- **Presentation**

RESULTS

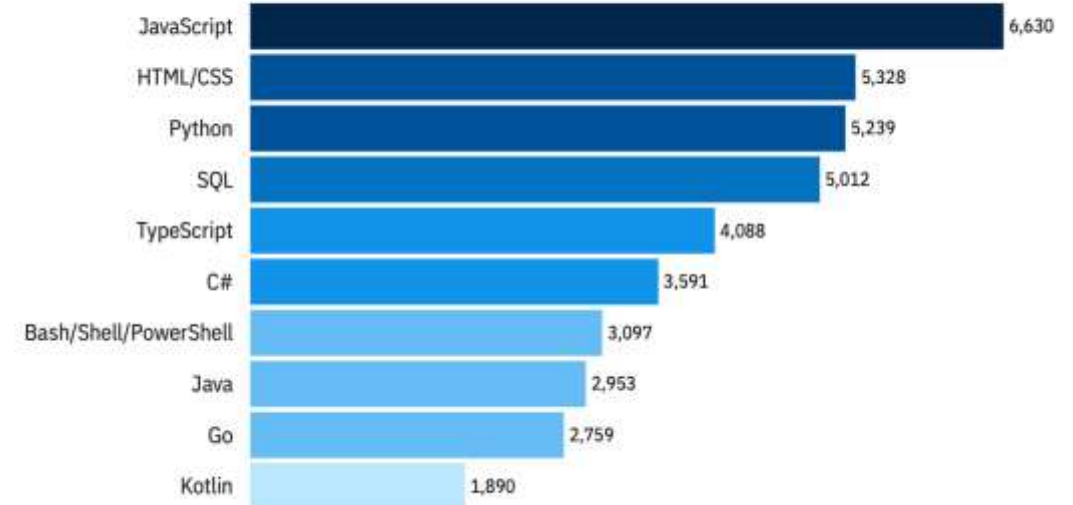


PROGRAMMING LANGUAGE TRENDS

Top 10 Languages Worked With



Top 10 Languages Desired Next Year



FINDINGS & IMPLICATIONS

Findings

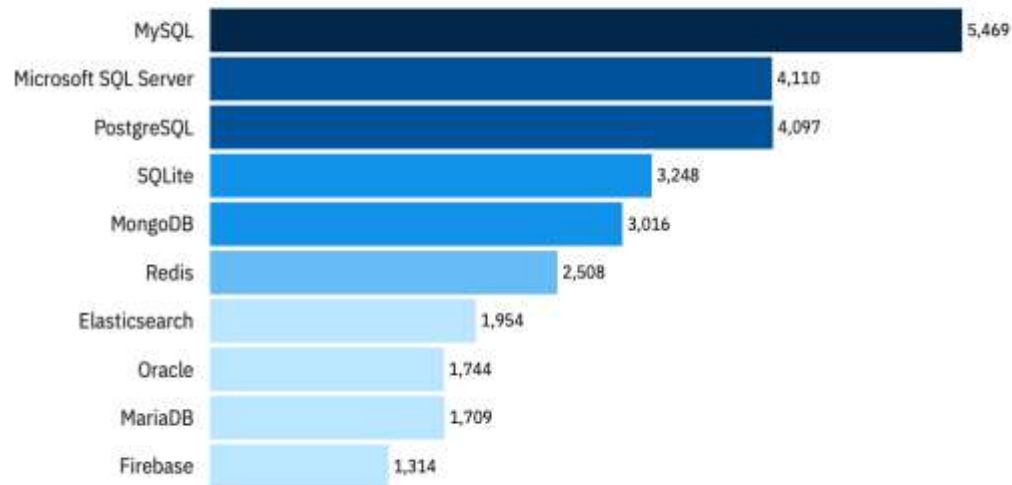
- JavaScript is currently the most used programming language throughout the world
- Python and TypeScript are becoming more popular
- HTML, CSS and SQL are still among the top programming languages

Implications

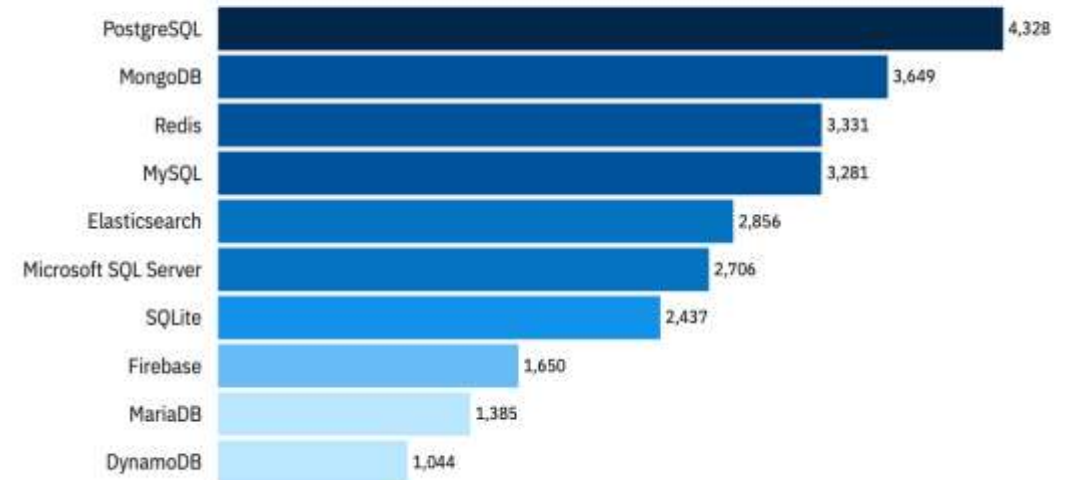
- Web Development and Developers are still in high demand
- JavaScript, HTML, and TypeScript are essential to learn for web developers
- Python is highly desired, as it's the primary language used for AI development and ML

DATABASE TRENDS

Top 10 Databases Worked With



Top 10 Databases Desired Next Year



FINDINGS & IMPLICATIONS

Findings

- MySQL is currently the most used database used in the world
- Microsoft SQL Server is still used by a lot of companies
- MongoDB and Redis are the most popular NoSQL Databases

Implications

- Open-source databases such as MySQL are still preferred
- Software development and Big Data technology still use SQL
- NoSQL databases will have a significant impact on the future of relational databases

DASHBOARD



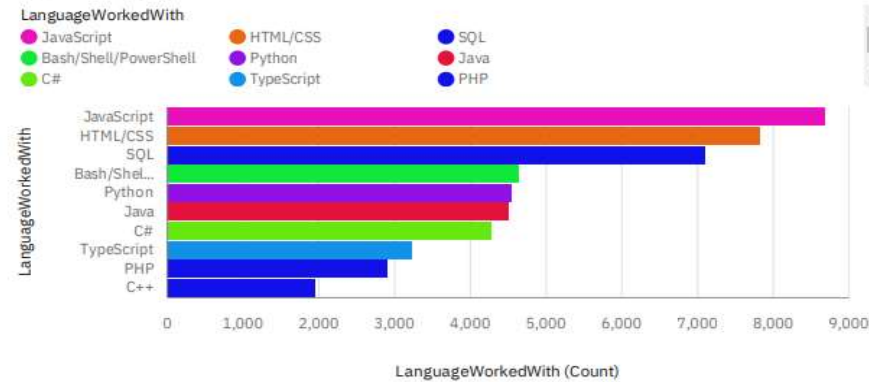
Link to read-only version of IBM Cognos dashboard

https://github.com/heerjoshi/IBM_CognosAnalytics_CapstoneProject

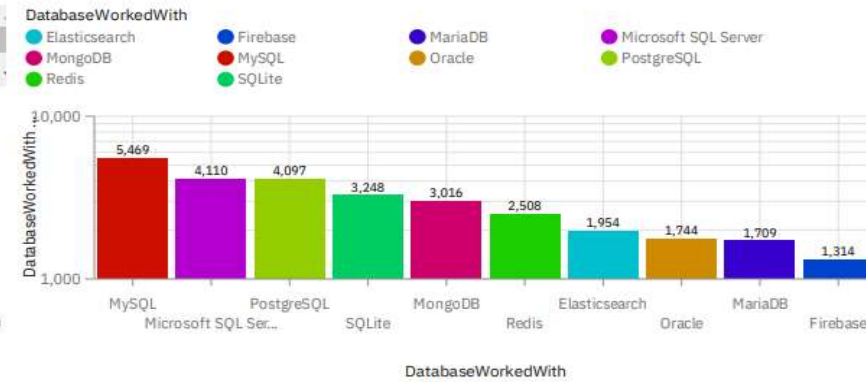
Current Technology Usage

Current Technology Usage

Top 10 LanguageWorkedWith



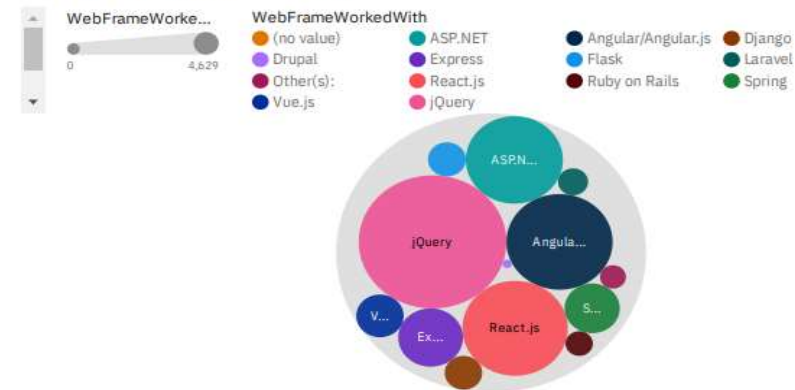
1 Top 10 DatabaseWorkedWith



PlatformWorkedWith



Top 10 WebFrameWorkedWith



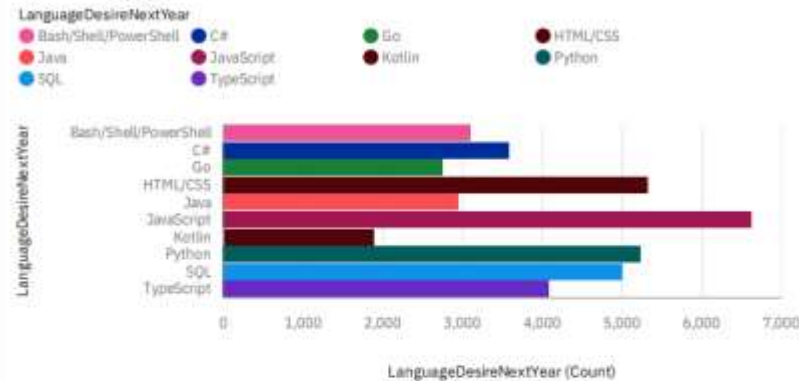
Future Technology Trends

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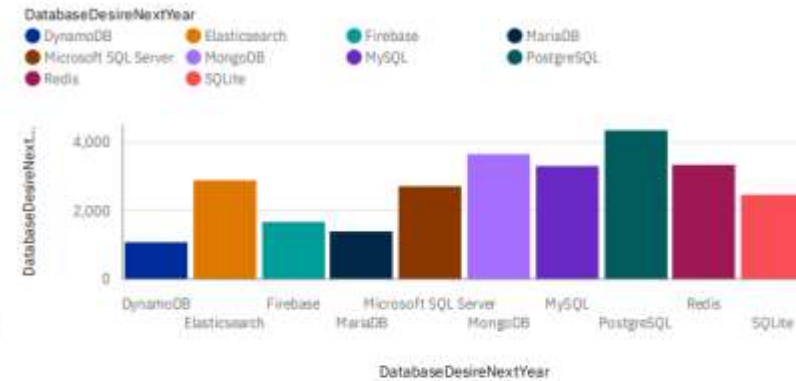
Part A

Future Technology Trend

Top 10 LanguageDesireNextYear



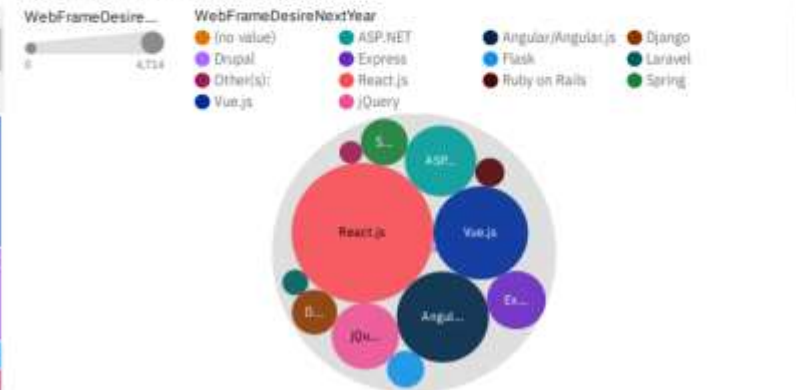
3 Top 10 DatabaseDesireNextYear



PlatformDesireNextYear



Top 10 WebFrameDesireNextYear



Demographics

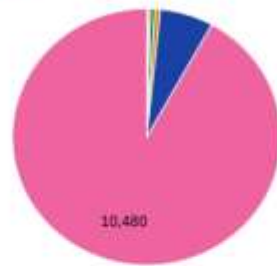
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Demographics

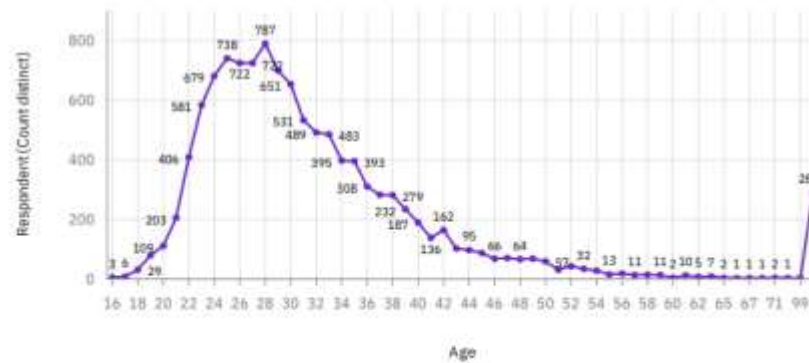
Respondent by Gender

Gender

- Woman;Man;Non-binary, genderqueer, or gender non-conforming
- Woman;Man
- Woman;Man;Non-binary, genderqueer, or gender non-conforming
- Man;Non-binary, genderqueer, or gender non-conforming
- Woman
- Man
- Non-binary, genderqueer, or gender non-conforming
- (no value)



Respondent by Age

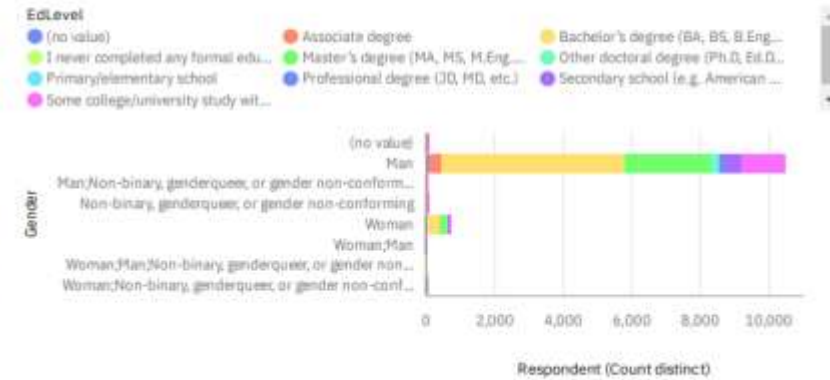


Part A

Respondent Count for Countries.



Respondent Count by Gender, classified by Formal Education Level



DISCUSSION



- **Technology Usage**

- Current Trends
- Future Trends

- **Discrimination in the IT Industry**

- Gender
- Age
- Education

OVERALL FINDINGS & IMPLICATIONS

Findings

- IT usage trends change every year
- Most of the top technology in the world located in the USA
- There is extreme Gender and Age discrimination in the IT industry
- Only 6.5% Developers are Female

Implications

- Programmers should always follow the latest technology trends
- More countries should have access and exposure to new technology
- Gender and Age should never be an issue when it comes to the use of technology

CONCLUSION

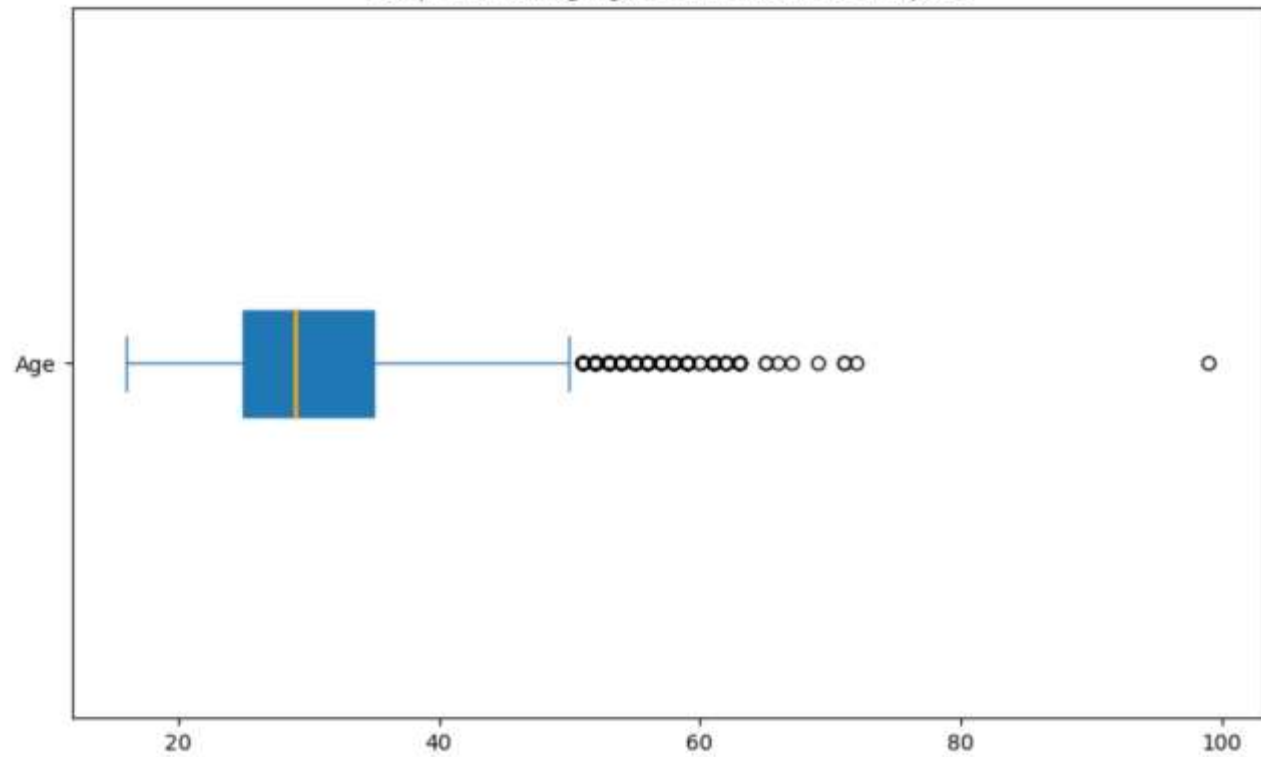


- JavaScript is still the most used of all programming languages
- The findings underscore the dynamic nature of programming and the critical role of technology in driving innovation across various industries
- Database systems are essential to meet the demands of modern applications
- Understanding of programming has become diverse

APPENDIX



Boxplot showing Age Difference of Developers



JOB POSTINGS: City

Job Postings by City



JOB POSTINGS: Experience

Job Postings by Programming Experience



POPULAR LANGUAGES

Average Annual Salary



Age vs Hours Worked Each Week

