TREND OF TECHNOLOGY ANALYSIS

Nihal Navin Thampy

26/10/2023

OUTLINE

- Executive Summary

- Introduction

- Methodology

- Results

  - Visualization – Charts

  - Dashboard

- Discussion

  - Findings & Implications

- Conclusion

- Appendix

IBM Developer

SKILLS NETWORK

EXECUTIVE SUMMARY

- Current Technology Usage Trend
  - Language
  - Database
  - Platform
  - Web frame
- Future Technology Trend
  - Language
  - Database
  - Platform
  - Web frame
- Demographics Survey
- Country & Gender Difference

INTRODUCTION

- Analyze technology trend in software and web development among developers around the world
- Purpose of this Analysis
  - Identify the top programming languages, database, platform and web frame skills in demand
  - Identify skill requirements for future
  - Identify human resource gap in the industry
- Audience for this Presentation
  - Programmers
  - IT industry leaders
  - Computer science students

METHODOLOGY

- Data Collection (Sources)
  - Stack overflow developer 2019 survey
  - GitHub job postings
  - Programming languages annual salary
- Data Wrangling
- Data Exploration
- Data Cleaning
- Data Visualization
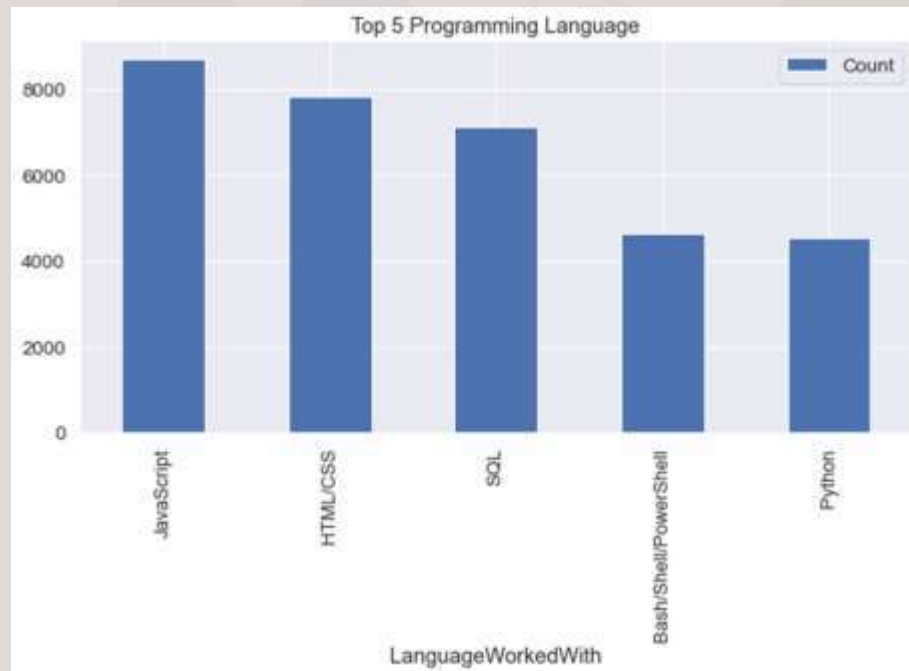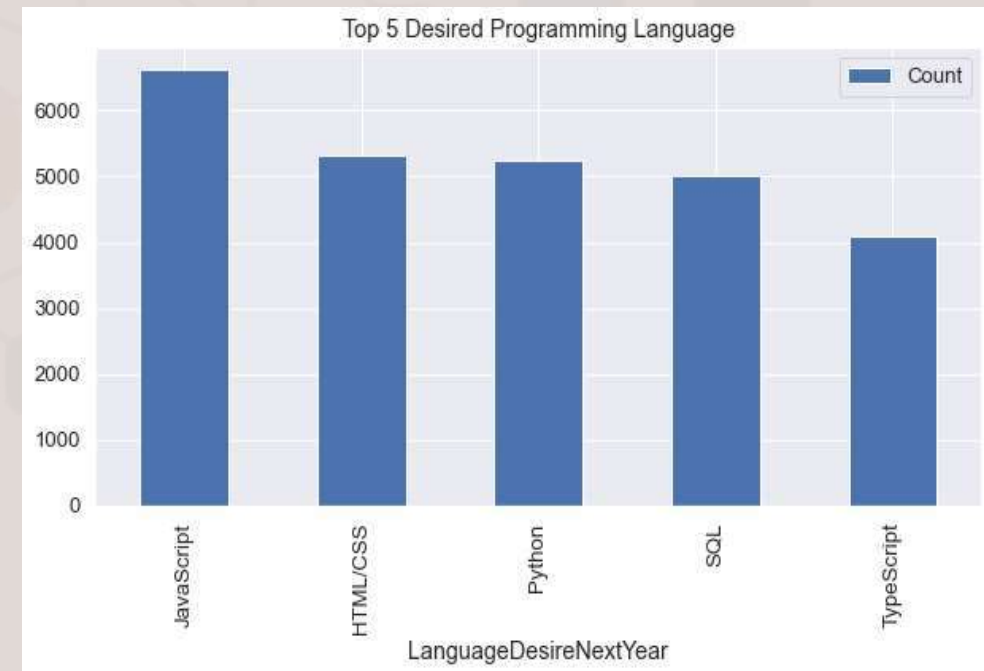 - Python matplotlib & turtle
  - IBM Cognos
- Presentation

RESULTS

	Respondent	LanguageWorkedWith	LanguageDesireNextYear	DatabaseWorkedWith	DatabaseDesireNextYear	PlatformWorkedWith
0	4	C	C	MySQL	MySQL	Linux
1	4	C++	C#	SQLite	SQLite	Windows
2	4	C#	JavaScript	NaN	NaN	NaN
3	4	Python	SQL	NaN	NaN	NaN
4	4	SQL	NaN	NaN	NaN	NaN
...	...	...	...	...	...	...
74584	25142	Go	Python	NaN	NaN	NaN
74585	25142	HTML/CSS	R	NaN	NaN	NaN
74586	25142	PHP	NaN	NaN	NaN	NaN
74587	25142	Python	NaN	NaN	NaN	NaN
74588	25142	R	NaN	NaN	NaN	NaN

PROGRAMMING LANGUAGE TRENDS IN TECHNOLOGY

Current Year

Next Year

PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- JavaScript stands out as the current frontrunner in the world of programming languages, enjoying the status of being the most sought-after and trending choice among developers.

- Python and TypeScript are steadily on the rise, with their popularity growing consistently. They're gradually becoming the languages of choice for a broad range of applications and projects.

- Notably, HTML/CSS and SQL continue to occupy a substantial share in the overall language usage trends, underscoring their enduring significance in the realms of web development and database management.
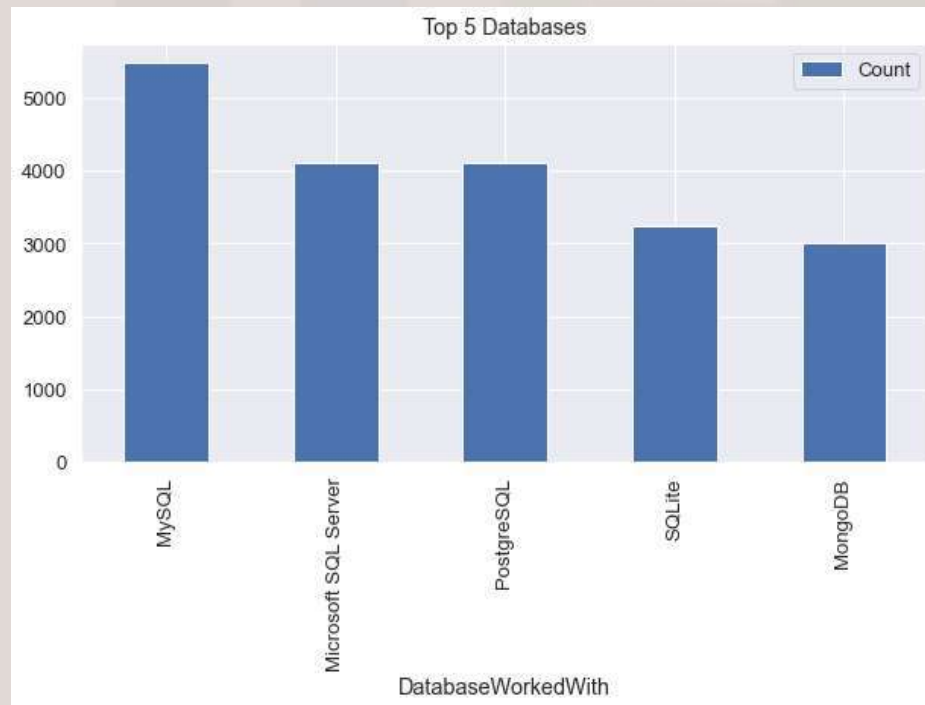
Implications

- The demand for web development and web developers remains consistently high, reflecting the persistent need for digital solutions and online experiences.

- Proficiency in JavaScript and TypeScript is increasingly seen as essential for developers, given their pivotal roles in modern web development and application creation.

- Python is currently making waves as a trending programming language, finding particular popularity in the domain of artificial intelligence, where it's driving innovation and breakthroughs.
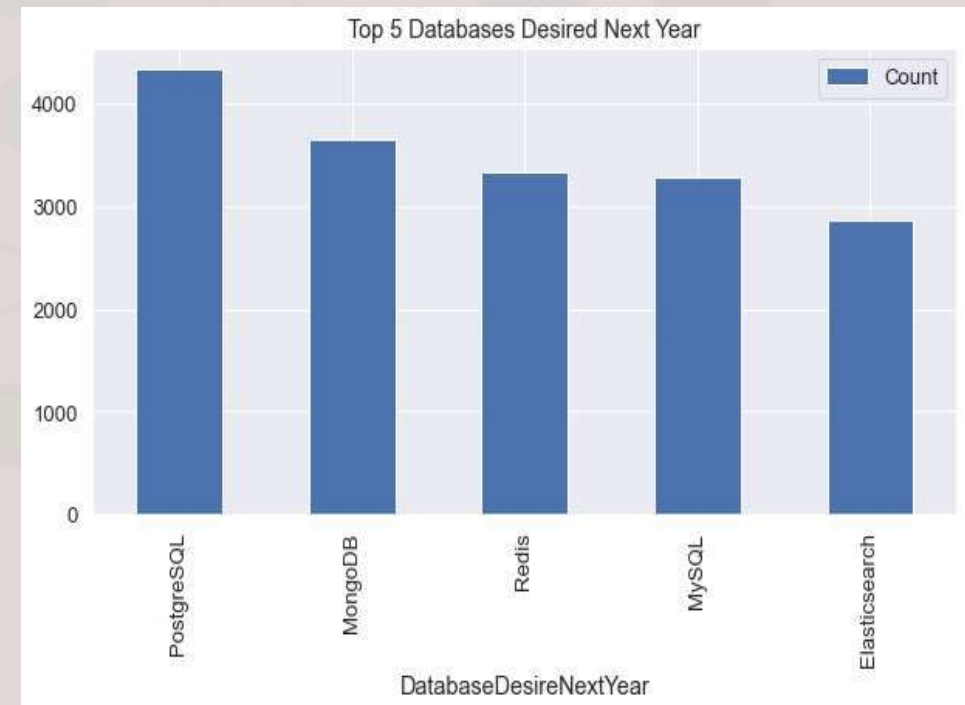
DATABASE TRENDS

Current Year

Next Year

DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL holds the distinction of being the most widely used and favored database system across various industries and applications.

- Many businesses continue to rely on Microsoft SQL Server, demonstrating its enduring presence as a preferred choice for managing and processing data.

- MongoDB and Redis have emerged as the top contenders in the realm of NoSQL databases, garnering significant favor among developers and organizations seeking flexible and scalable data storage solutions.

Implications

- MySQL and other open-source databases remain the top choice for many.

- SQL continues to be essential in software development and Big Data technology.

- NoSQL databases are poised to disrupt the world of relational databases.
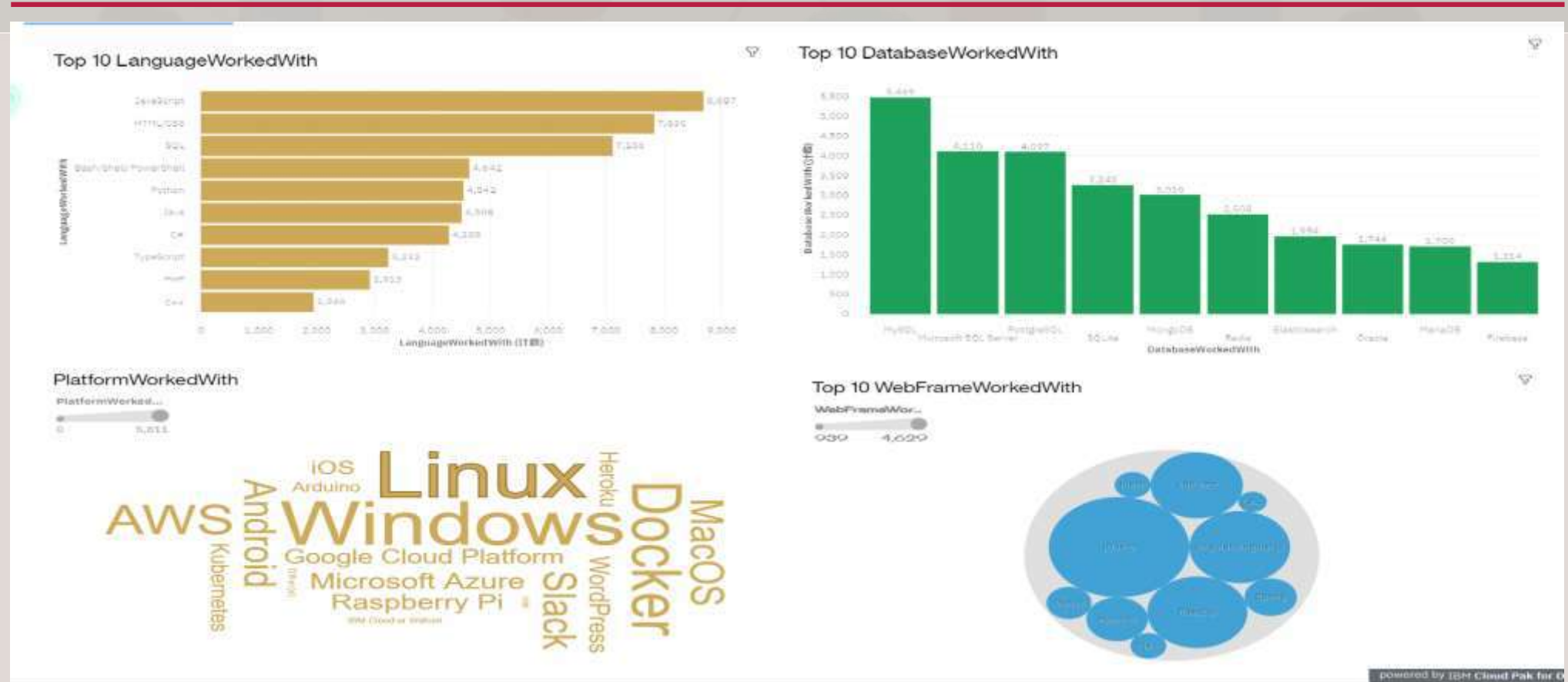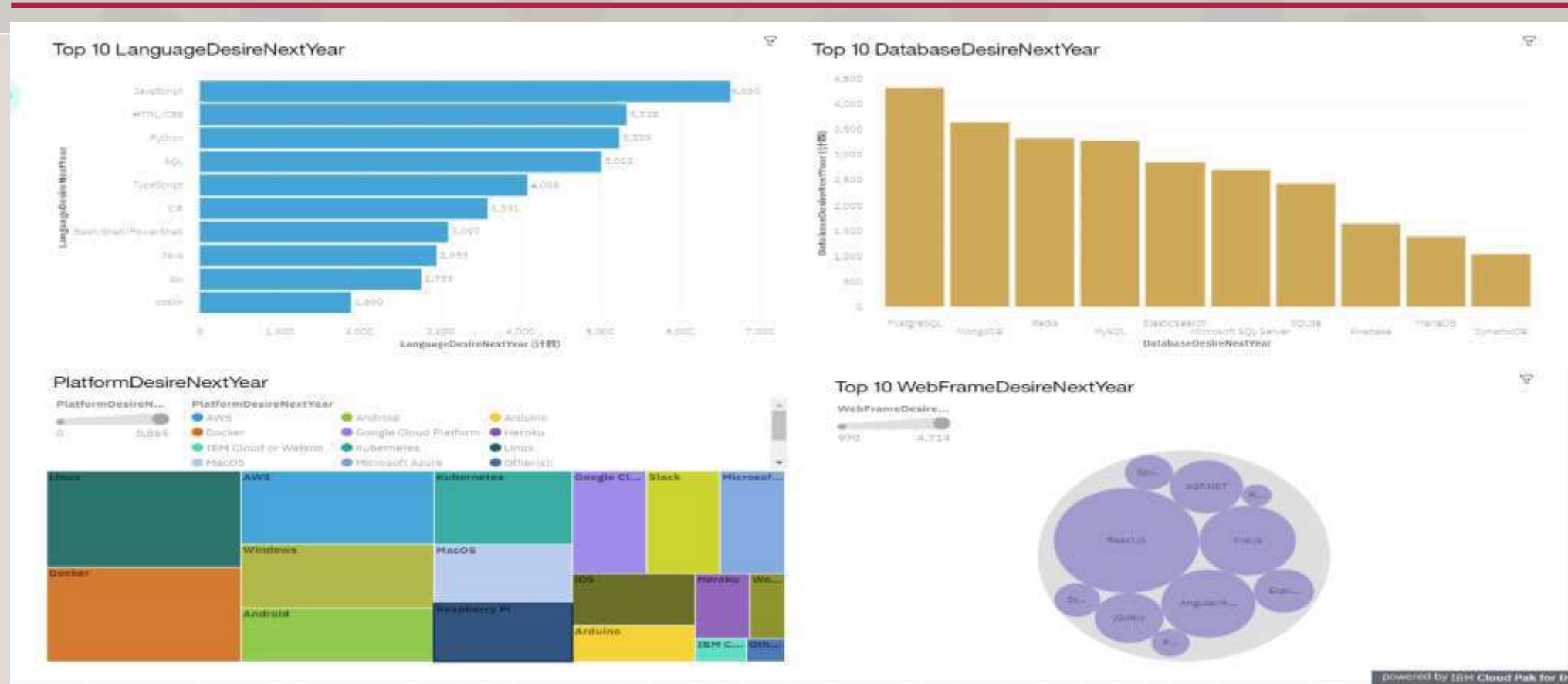
DASHBOARD

The permanent link of the read-only view of the Cognos dashboard:

https://github.com/nihal2329/Capstone-story-project/blob/34be1404959e81aba922e68a82e0f891a95a68fb/A%20dashboard%20with%20Cognos%20Dashboard%20Embedded%20(CDE).json
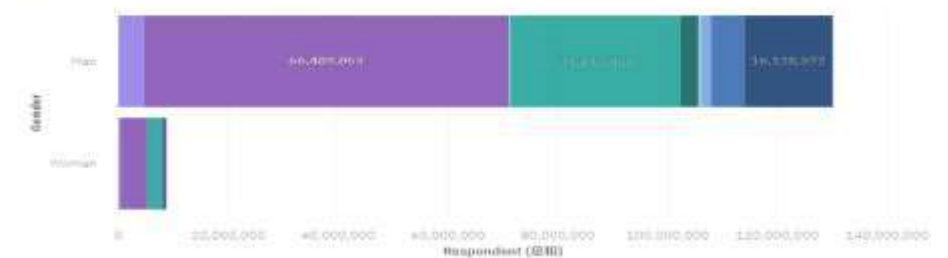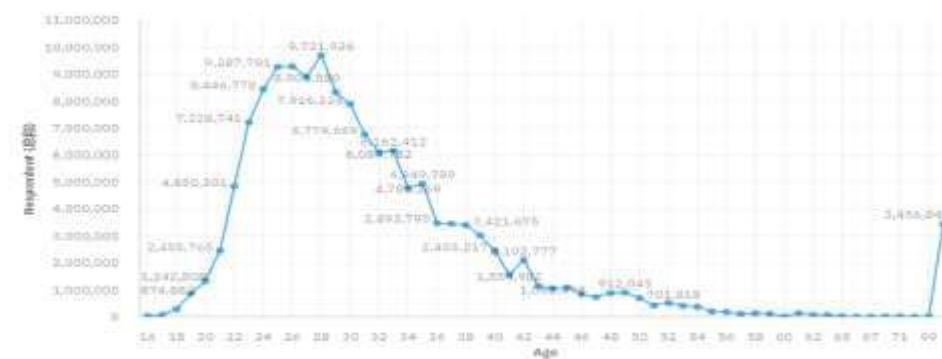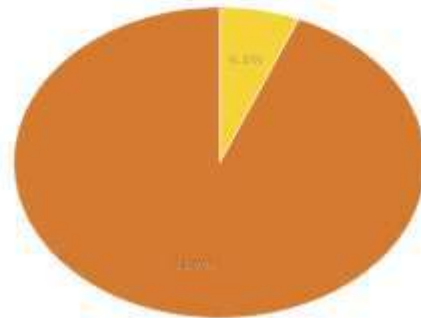
CURRENT TECHNOLOGY USAGE

FUTURE TECHNOLOGY TREND

DEMOGRAPHICS

DISCUSSION

- Current and Future Technology Usage Trends
- Inequities in the IT Industry: Gender, Age, and Education Discrimination

IBM Developer

SKILLS NETWORK

OVERALL FINDINGS & IMPLICATIONS

Findings

- Annual Evolution of Technology Trends
- Leading the Tech Frontier: The USA's Prominence
- Struggles with Gender and Age Discrimination
- Dominance of Docker and AWS Platforms

Implications

- Staying Updated: The Imperative for Programmers to Embrace Current Technology Trends
- Expanding Access: Promoting Equal Technology Exposure Across Nations

CONCLUSION

- Evolving Technology Trends: Programming Languages, Databases, Platforms, and Web Frameworks
- Shifting Demographics: Exploring Gender and Education
- Correlation Between Programming Language Trends and Salary Patterns
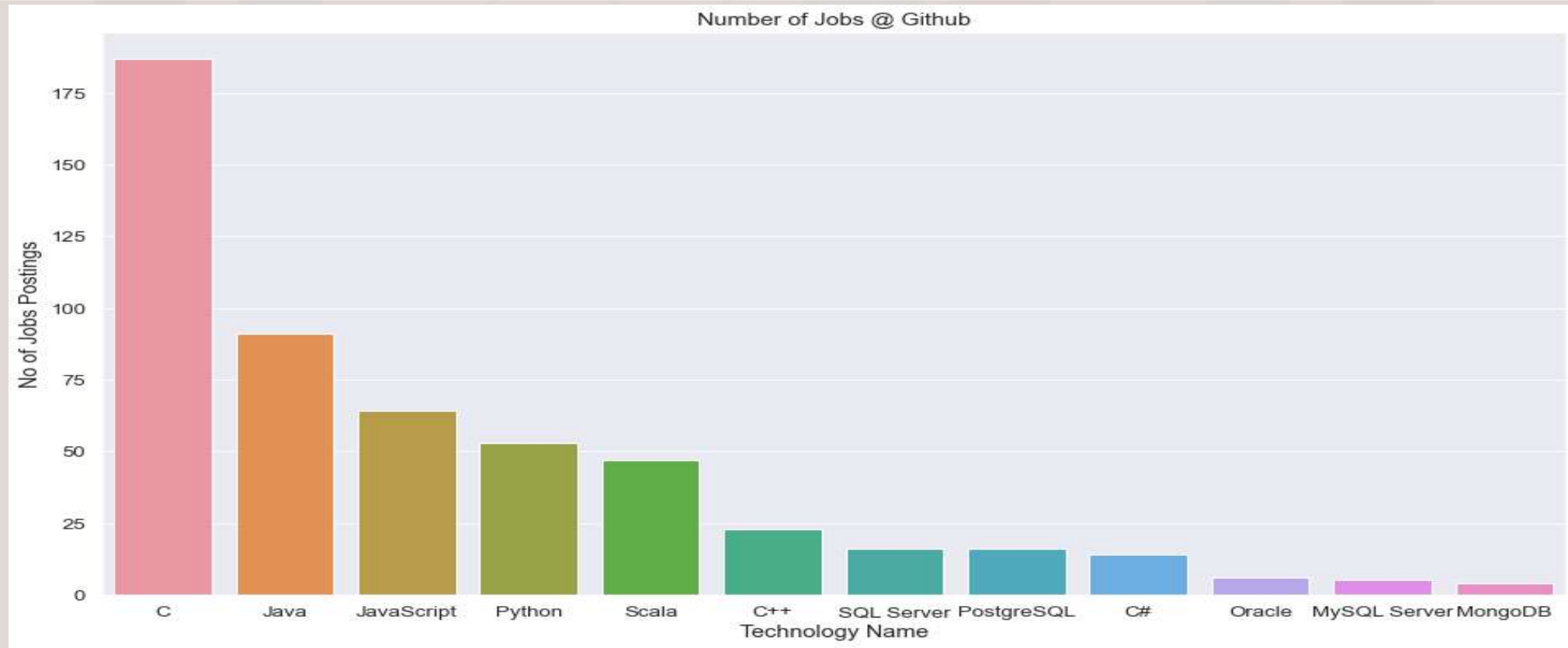
APPENDIX

- IBM Cognos Dashboard Embedded (CDE) is an AI-driven business intelligence service.
- It supports the entire data analytics process, from data discovery to operationalization.
- Users can visually explore and interact with data to uncover valuable insights.
- It allows users to create interactive dashboards without requiring formal training.

GITHUB JOB POSTINGS

POPULAR LANGUAGES