



TECHNOLOGY TREND ANALYSIS

ENETOMHE CORNELIUS

23/01/24

OUTLINE



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

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 trends in software and web development among developers around the world
- Purpose of this Analysis
 - Identify the top programming languages, databases, platforms and web frame skills that are in demand
 - Identify skill requirements for future
 - Identify the human resource gap in the industry
- Audience for this Presentation
 - Programmers
 - IT industry leaders
 - Computer science students

METHODOLOGY



- Data Collection
 - Stack Overflow Developer 2019 survey
 - GitHub job postings
 - Programming languages annual salary
- Data Wrangling
- Data Exploration
- Data Cleaning
- Data Visualization
 - Python Matplotlib
 - IBM Cognos
- Presentation

RESULTS

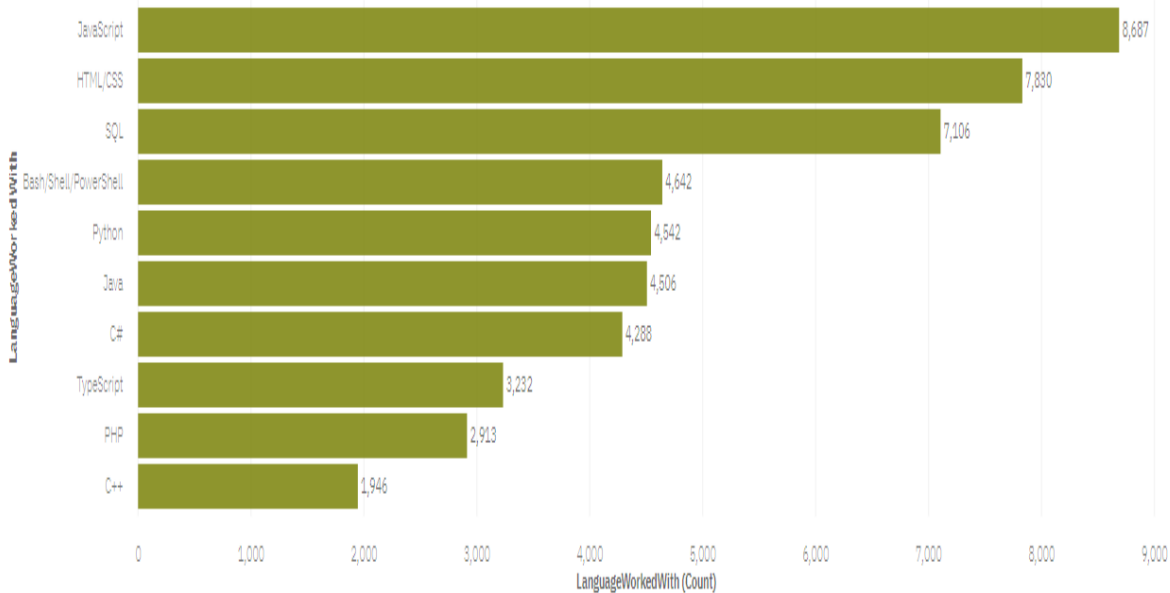
	Respondent	LanguageWorkedWith	LanguageDesireNextYear	DatabaseWorkedWith	DatabaseDesireNextYear	PlatformWorkedWith
0	4	C	C	MySQL	MySQL	Linux
1	4	C++	C#	SQLite	SQLite	Windows
2	4	C#	JavaScript	NaN	NaN	NaN
3	4	Python	SQL	NaN	NaN	NaN
4	4	SQL	NaN	NaN	NaN	NaN
...
74584	25142	Go	Python	NaN	NaN	NaN
74585	25142	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

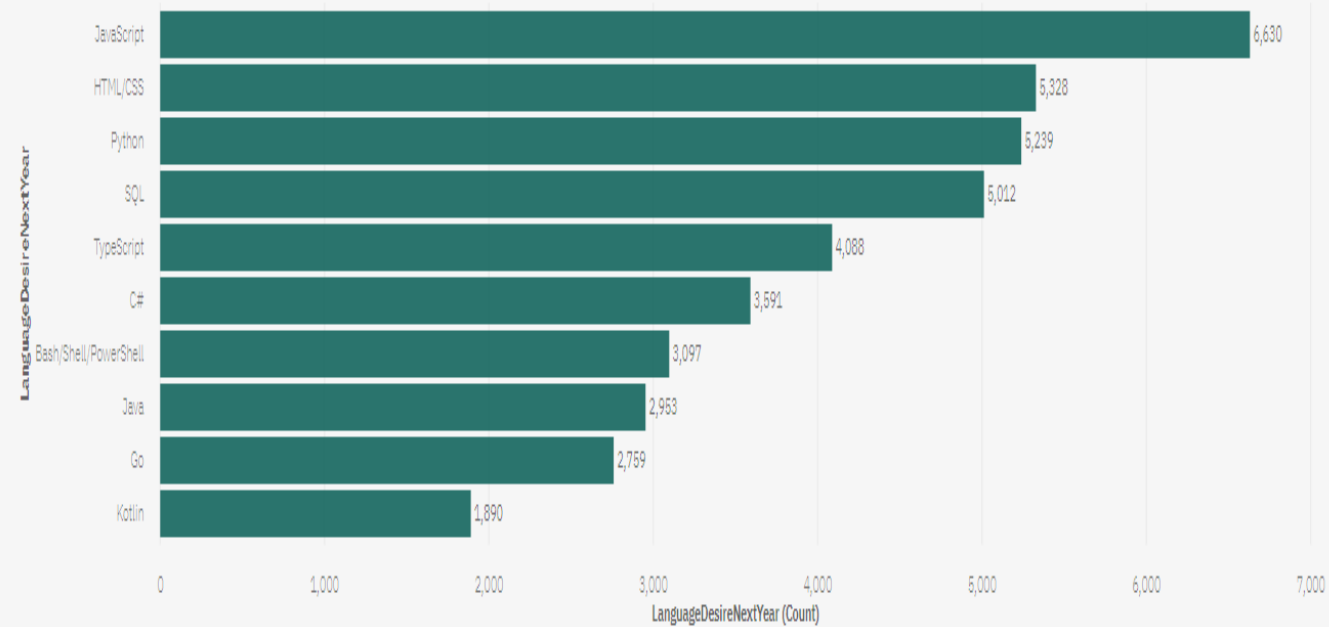
Current Year

Next Year

Top 10 Language Engaged This Year



Top 10 Language Desire Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

JavaScript is top trending language in the world

Python and TypeScript are becoming more and more popular

HTML/CSS and SQL still has great portion in language usage trend

Implications

Web developments and Web developers are still in high demands

JavaScript and TypeScript are crucial to learn for developers

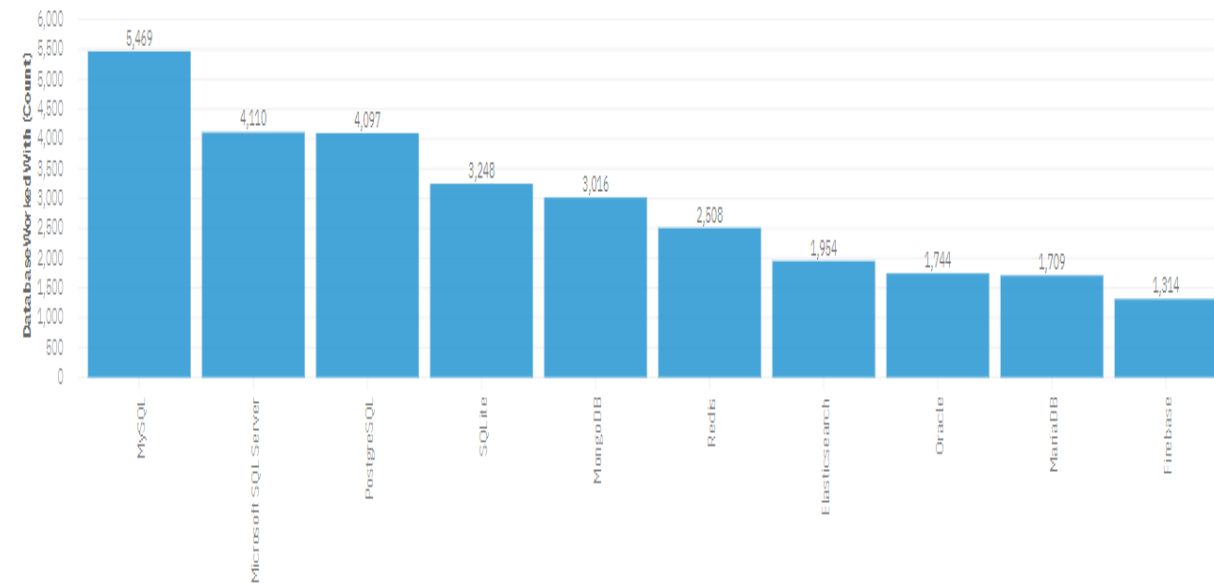
Python is the new trending language, especially popular in AI fields

DATABASE TRENDS

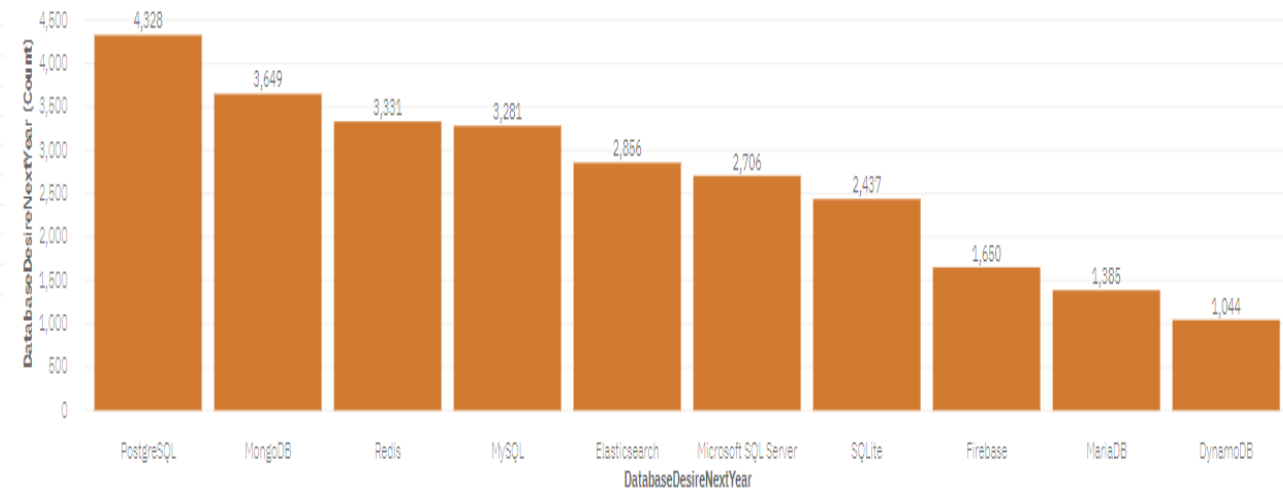
Current Year

Next Year

Top 10 Database Engaged This Year



Top 10 Database Desire Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

MySQL is the most popular database

There are still a lot of companies using Microsoft SQL Server

MongoDB and Redis are the most favorable NoSQL database

Implications

Open-source databases like MySQL are still preferable

Software development and Big Data technology still require SQL

NoSQL databases will make an impact on relational databases

DASHBOARD

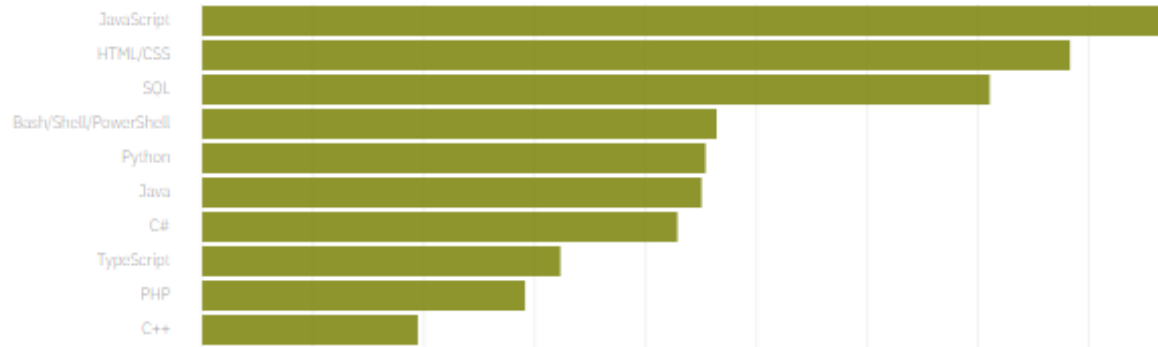


The permanent link of the read-only view of the Cognos dashboard:

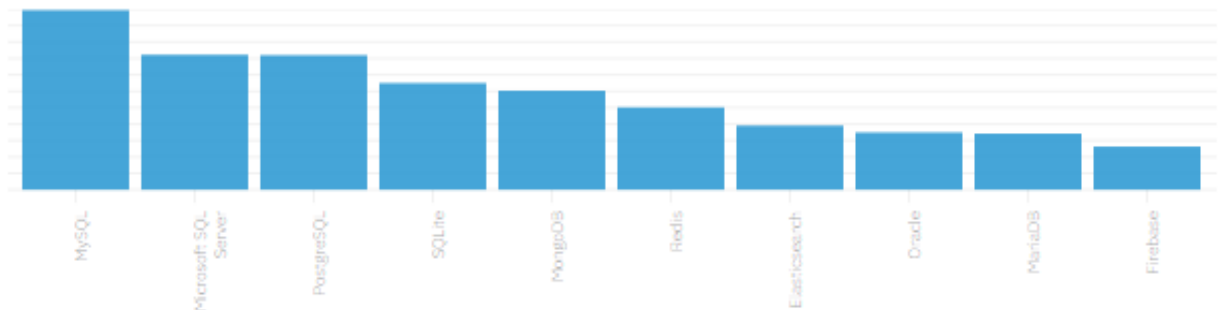
<https://datapatform.cloud.ibm.com/dashboards/3fdb41d9-adfe-492f-87c5-b1289b6778b9/view/4f7fd406178b349715f3c0e4079824042f662209b3bbd15681837b495a637597a96e1795c87e1e5a8b180737f1eb405bc0>

DASHBOARD TAB 1

Top 10 Language Engaged This Year



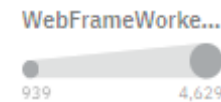
Top 10 Database Engaged This Year



Platforms Engaged This Year

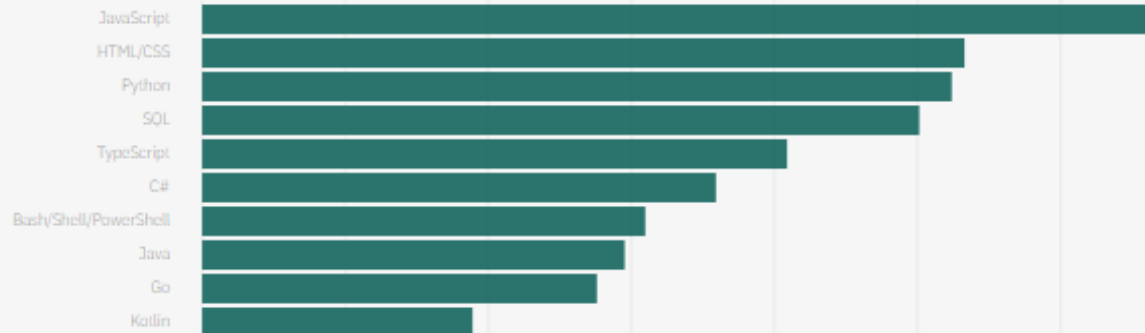


Top 10 WebFrame Engaged This Year

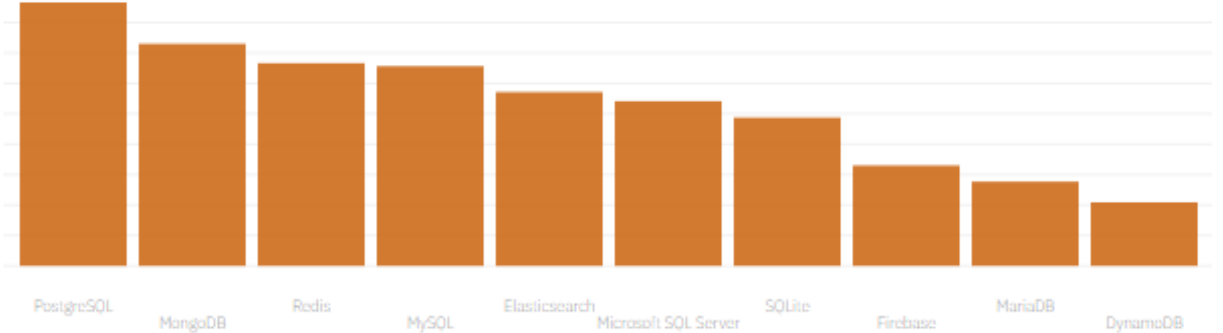


DASHBOARD TAB 2

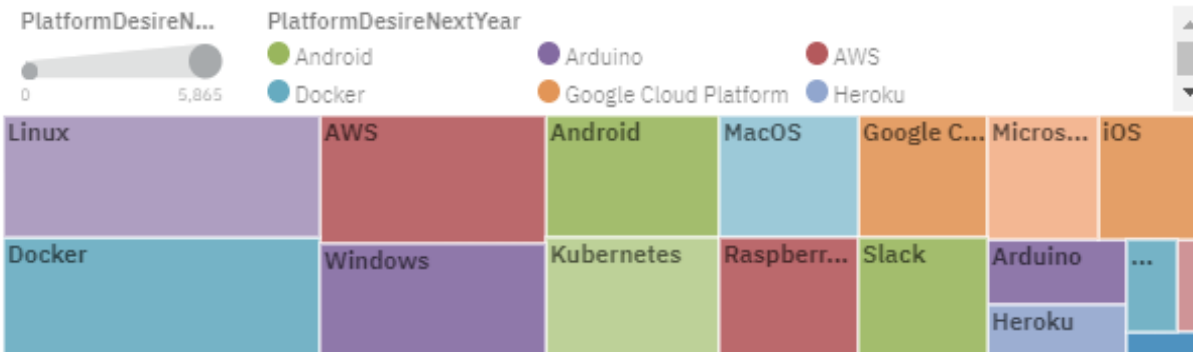
Top 10 Language Desire Next Year



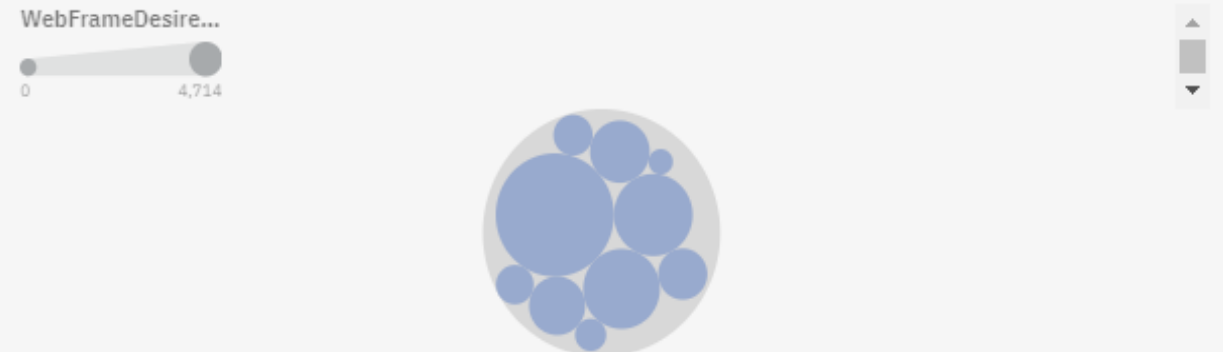
Top 10 Database Desire Next Year



Platform Desired Next Year



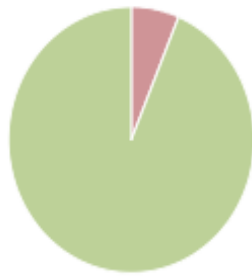
Top 10 WebFrame Desired Next Year



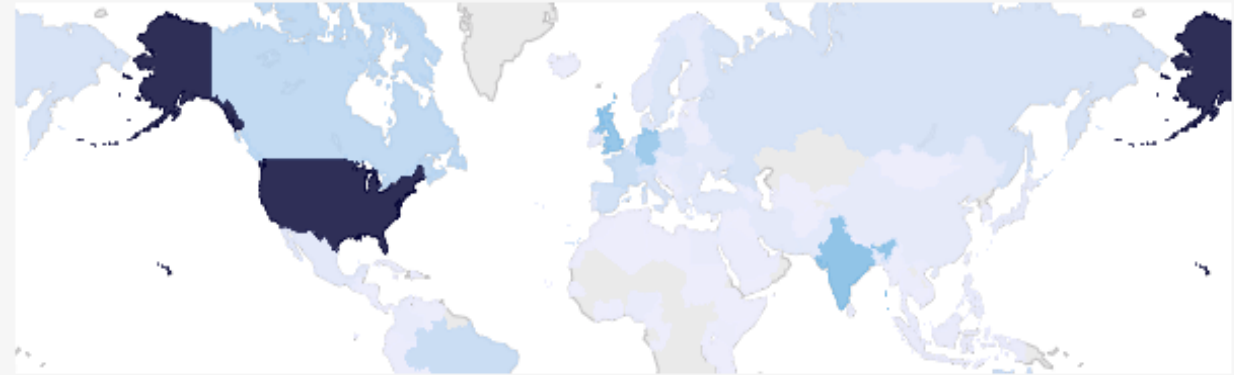
DASHBOARD TAB 3

Respondent classified by Gender

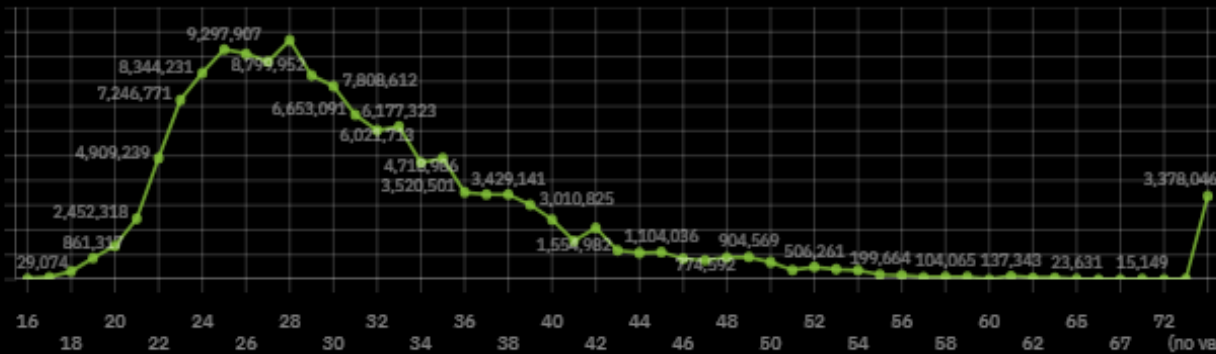
Gender
● Woman ● Man



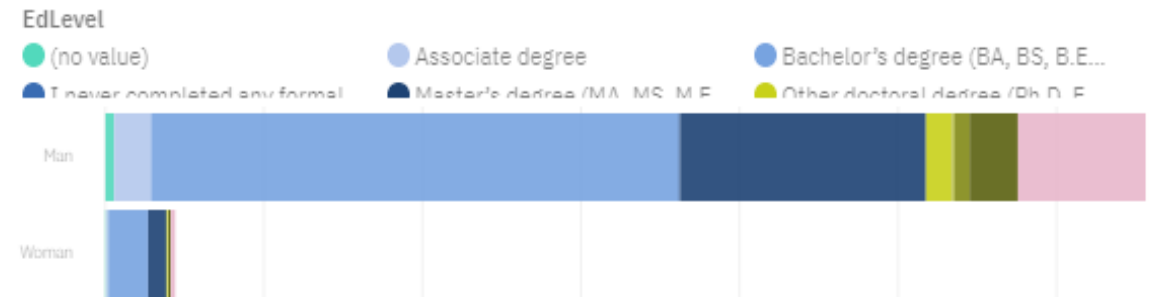
Respondent Count for Countries



Respondent Count by Age



Respondent Count by Gender, classified by Formal Education Level.



DISCUSSION



Difference in Technology Usage
Trend Now and in the Future

Gender, Age and Education
Discrimination in the IT Industry

OVERALL FINDINGS & IMPLICATIONS

Findings

Technology trends changes every year
USA is the top technology country
There are extreme gender and age discrimination
Docker and AWS are the most popular platform

Implications

Programmers should always follow the latest technology trends
More countries should have an equal chance to be exposed to new technology
Gender and Age should not be one of the concerns or benefits of Employment

CONCLUSION



Technology Trends

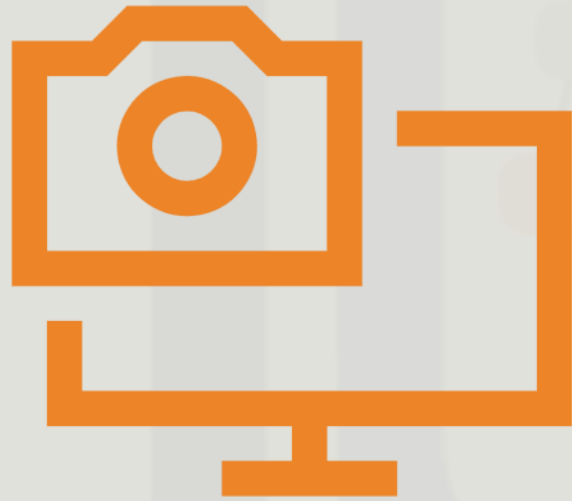
Programming Languages, Database, Platform, and Web Frame Trends

Demographics Trends

Gender, Age and Education

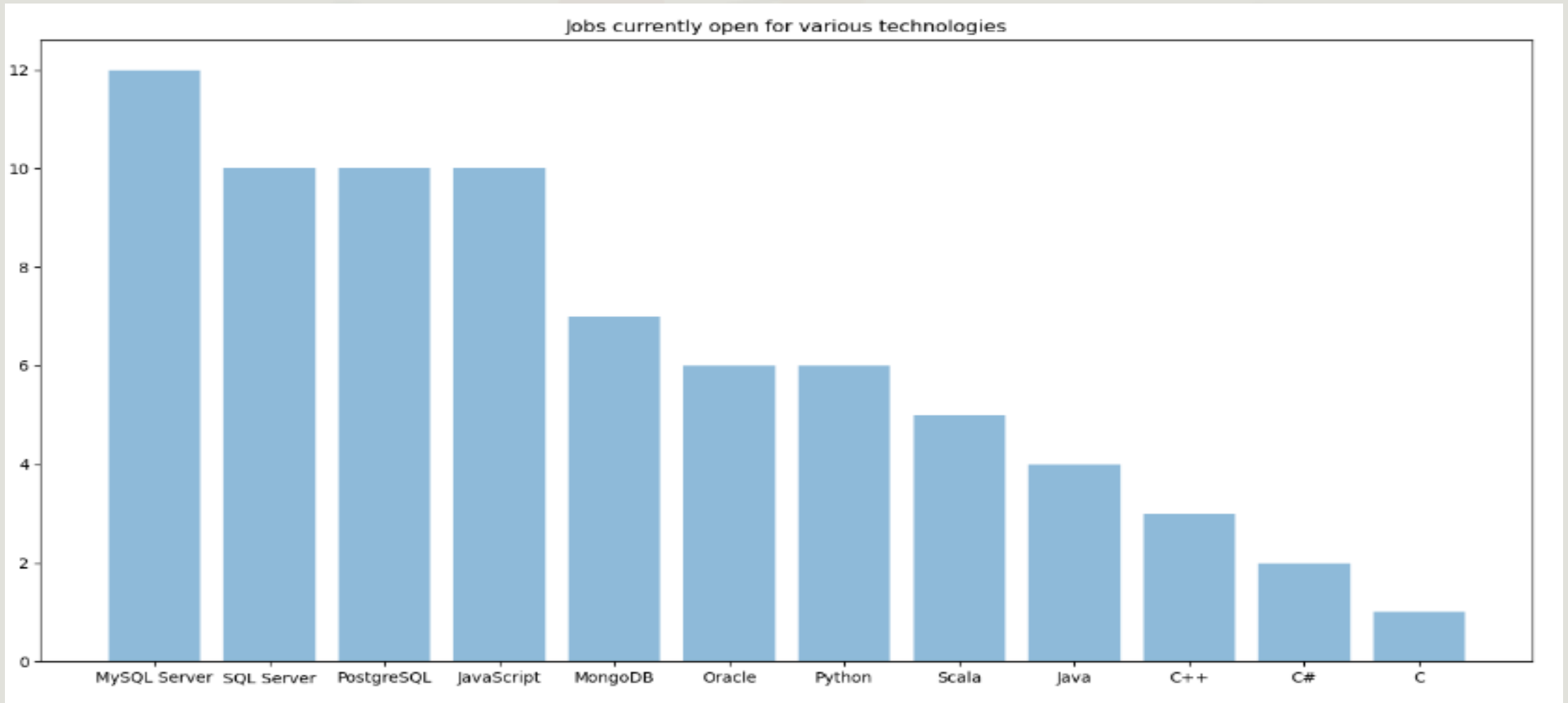
Programming Languages Trends and Salary Trends

APPENDIX



IBM Cognos Dashboard Embedded (CDE) is an AI-fueled business intelligence service that supports the entire data analytics cycle, from discovery to operationalization. With the help of its data discovery tools, users can visually examine and engage with their data to find the most important insights for making better data-driven decisions. Without previous expertise, users may uncover data and easily put that information together into visually appealing, interactive dashboards.

JOB POSTINGS



POPULAR LANGUAGES

