



Trend Analysis- IBM Project

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OUTLINE



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EXECUTIVE SUMMARY



- Data Collection
- Data Wrangling
 - Finding and Removing Duplicates
 - Finding and Imputing Missing Values
 - Normalizing Data
- Exploratory Data Analysis
- Data Visualization
- Building A Dashboard

INTRODUCTION



- Find new trends in IT industry
- Identify top program languages in the IT industry
- Identify languages needed for the next year
- Identify the databases worked with the most
- Identify the databases are needed to work with the most next year

METHODOLOGY



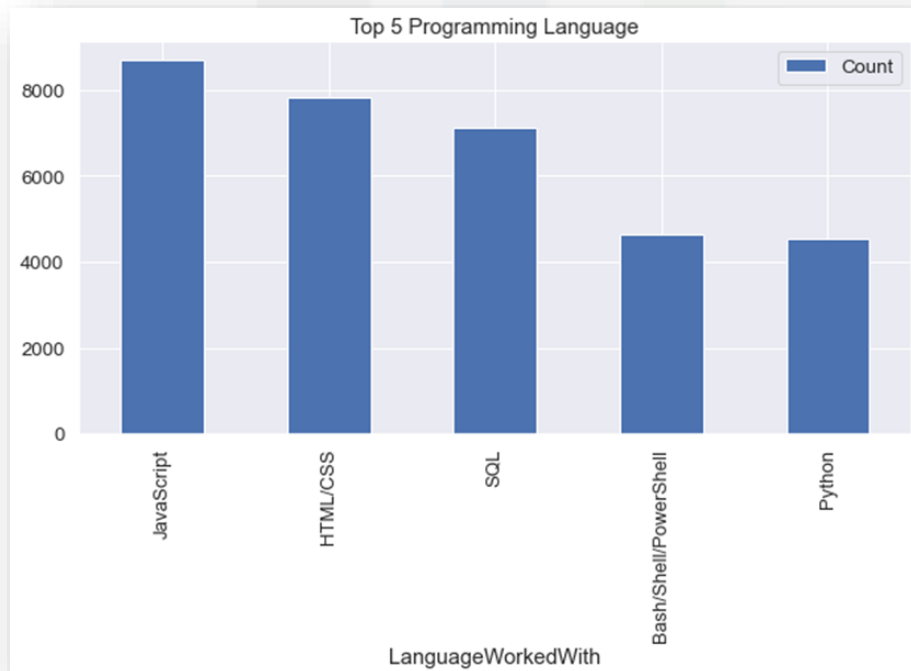
- Data Collection
 - Stack overflow developer 2019 survey
 - GitHub job postings
- Data Wrangling
- Data Exploration
- Data Cleaning
- Data Visualization
- Presentation

RESULTS

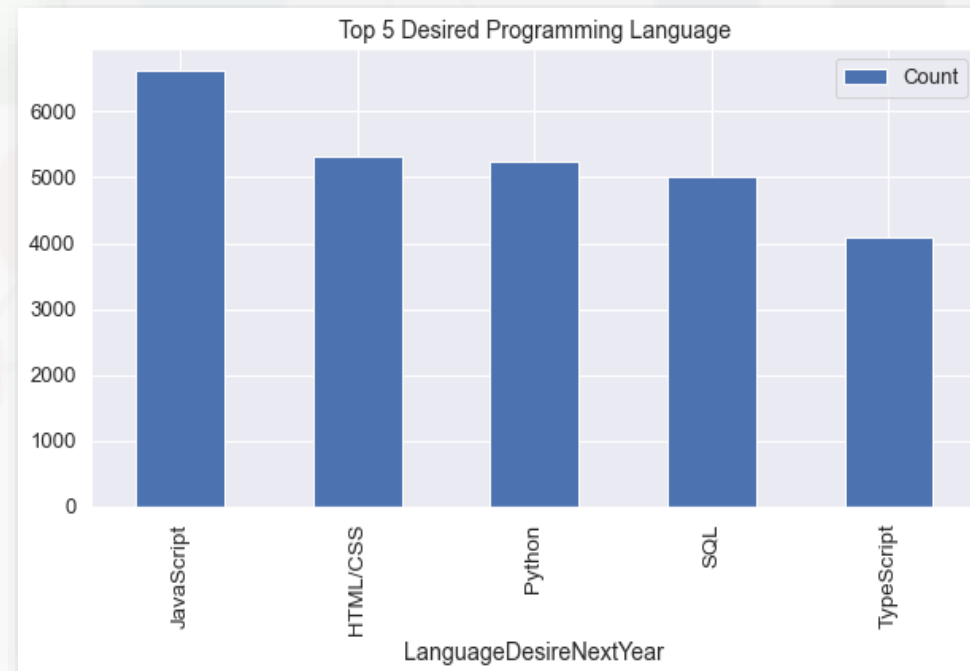
	Respondent	LanguageWorkedWith	LanguageDesireNextYear	DatabaseWorkedWith	DatabaseDesireNextYear	PlatformWorkedWith
0	4	C	C	MySQL	MySQL	Linux
1	4	C++	C#	SQLite	SQLite	Windows
2	4	C#	JavaScript	NaN	NaN	NaN
3	4	Python	SQL	NaN	NaN	NaN
4	4	SQL	NaN	NaN	NaN	NaN
...
74584	25142	Go	Python	NaN	NaN	NaN
74585	25142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



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

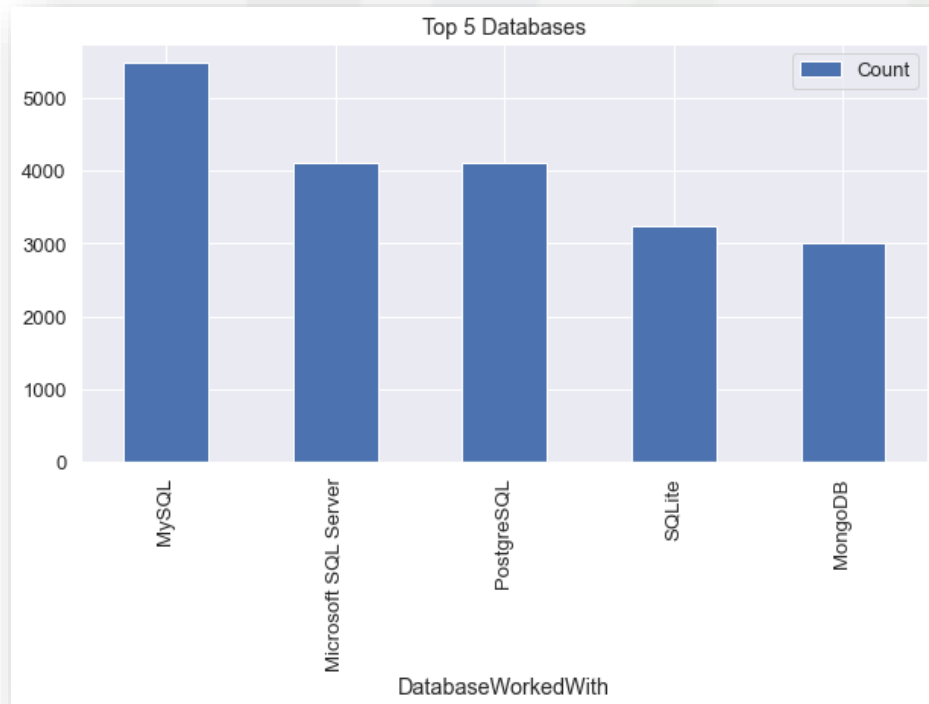
- JavaScript is top trending language in the world
- Python and TypeScript are becoming more and more popular
- HTML/CSS and SQL still has great portion in language usage trend

Implications

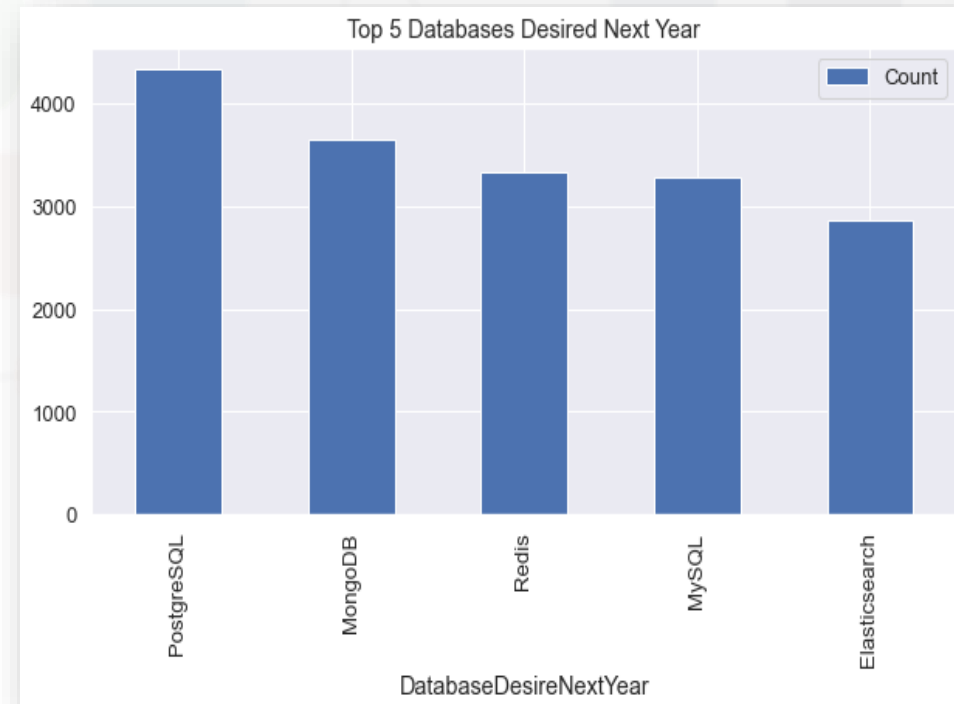
- Web developments and Web developers are still in high demands
- JavaScript and TypeScript are crucial to learn for developers
- Python is the new trending language, especially popular in AI fields

DATABASE TRENDS

Current Year



Next Year



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 requires SQL
- NoSQL databases will make an impact for relational databases

DISCUSSION

- Technology Usage Trend Now and Future

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 the equal chance to be exposed to new technology
- Gender and Age should not be one of the concerns or benefits of Employment

CONCLUSION



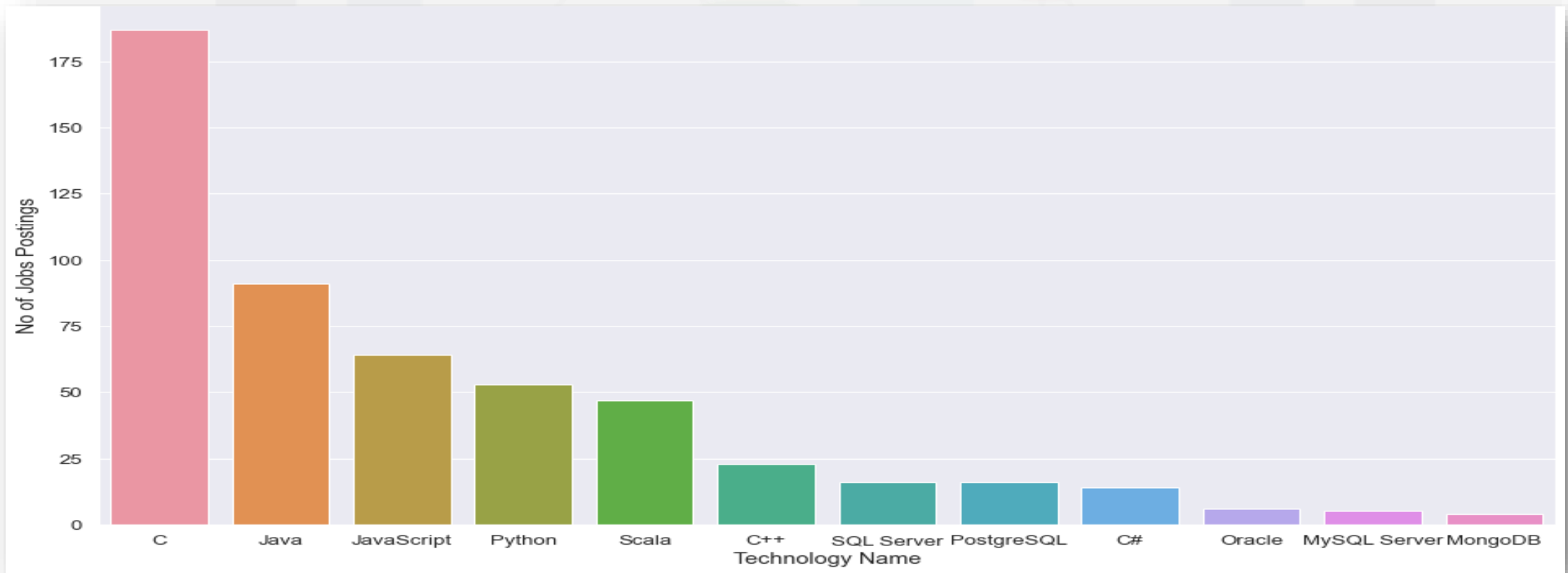
- Technology Trends
- Programming Languages, Database, Platform and Web frame Trends
- Demographics Trends
- Programming Languages Trends and Salary Trends

APPENDIX



- Include any relevant additional charts, or tables that you may have created during the analysis phase.

JOB POSTINGS



POPULAR LANGUAGES

