Technology Trends and Analysis Presentation

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OUTLINE

- Executive Summary

- Introduction

- Methodology

- Results
  - Visualization – Charts
  - Dashboard

- Discussion
  - Findings & Implications

- Conclusion

- Appendix

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EXECUTIVE SUMMARY

- Trends in programming languages and databases
- Demographics survey
- Technological gap in countries
- Gender gap in jobs

INTRODUCTION

- About:
- Analyzing the trends in software development
- Purpose:
  - Identify skill requirements for future
  - What are the top programming languages in demand?
  - What are the top database skills in demand?
  - What are the popular IDEs

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METHODOLOGY

- Data Collection Sources
- Stack Overflow Developer 2019 Survey
- GitHub Job Postings
- Programming Languages Annual Salary
- Data Exploration
- Data Cleaning
- Data Visualization
- Presentation

RESULTS

m5_survey_data_technologies_normalised

Respondent	LanguageWorkedWith	LanguageDesireNextYear	DatabaseWorkedWith	DatabaseDesireNextYear	PlatformWorkedWith	PlatformDesireNextYear	WebFrameWorkedWith	WebFrameDesireNextYear	DevEnviron
4	C	C	MySQL	MySQL	Linux	Linux			Eclipse
4	C++	C#	SQLite	SQLite	Windows	Windows			Vim
4	C#	JavaScript							Visual Studio
4	Python	SQL							Visual Studio
4	SQL								
9	Bash/Shell/PowerShell	Bash/Shell/PowerShell	DynamoDB	PostgreSQL	AWS	AWS	Express	Express	Vim
9	C#	C	PostgreSQL	Redis	Docker	Docker	Ruby on Rails	Ruby on Rails	
9	HTML/CSS	HTML/CSS	SQLite	SQLite	Heroku	Heroku	Other(s):	Other(s):	
9	JavaScript	JavaScript			Linux	Linux			
9	Python	Ruby			MacOS	MacOS			
9	Ruby	Rust			Slack	Slack			
9	Rust	SQL				Other(s):			
9	SQL	TypeScript							
9	TypeScript	WebAssembly							
9	WebAssembly	Other(s):							
9	Other(s):								
13	Bash/Shell/PowerShell	Bash/Shell/PowerShell	Couchbase	Firebase	Android	Android	Angular/Angular.js	Express	Vim
13	HTML/CSS	HTML/CSS	DynamoDB	MySQL	AWS	AWS	ASP.NET	Vue.js	Visual Studio
13	JavaScript	JavaScript	Firebase	Redis	Docker	Docker	Express		Visual Studio
13	PHP	Rust	MySQL		IBM Cloud or Watson	IBM Cloud or Watson	jQuery		Xcode
13	SQL	SQL			iOS	Linux	Vue.js		
13	TypeScript	TypeScript			Linux	Slack			
13		WebAssembly			MacOS	Windows			
13					Microsoft Azure	WordPress			
13					Slack				
13					Windows				
13					WordPress				

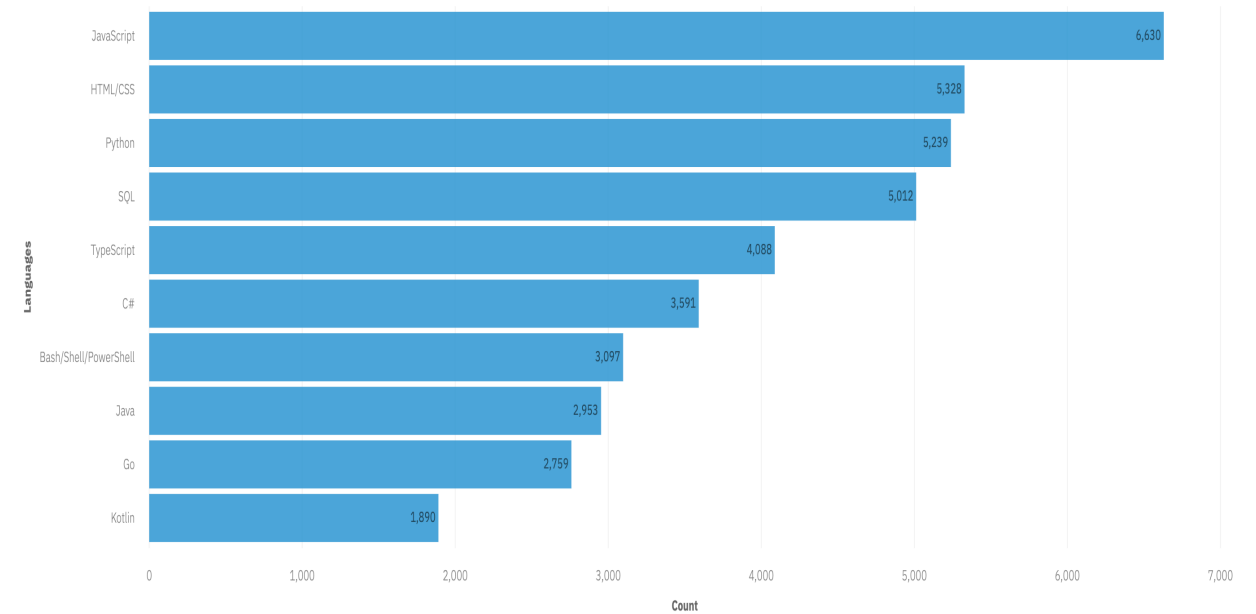# PROGRAMMING LANGUAGE TRENDS

Current Year

Top 10 LanguageWorkedWith
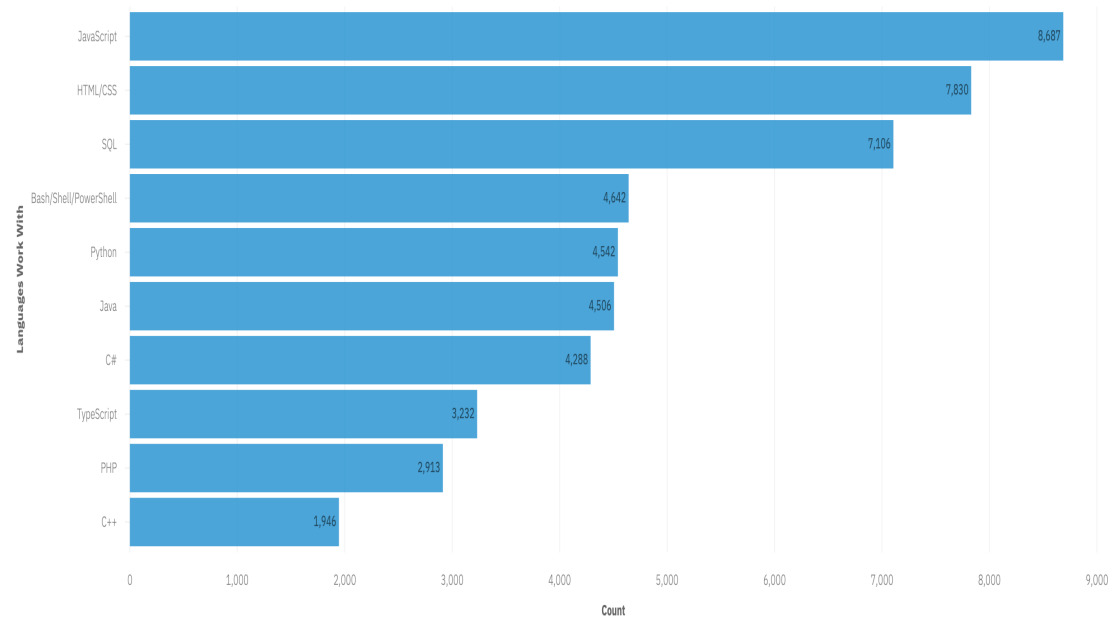
Next Year

Top 10 Language Desire Next Year

PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- JavaScript, HTML/CSS, SQL are top 3 this year.
- Python and Typescript becoming popular next year.
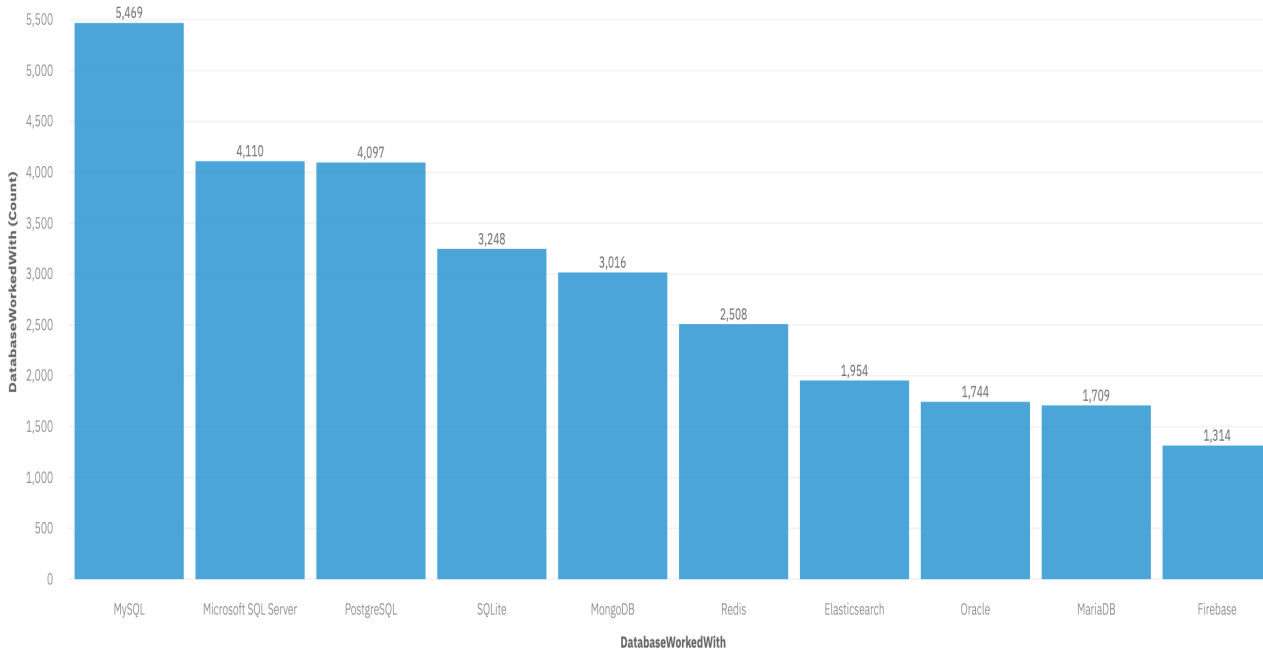- C++ and PHP is out of top 10 next year.

Implications

- Web development (HTML/CSS & JAVASCRIPT) are still in high demand.
- Big Data technology in companies still requires SQL
- With AI and Machine Learning in rising demand, Python is best choice

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DATABASE TRENDS

Current Year

Top 10 DatabaseWorkedWith

Next Year

Top 10 Database Desire Next Year
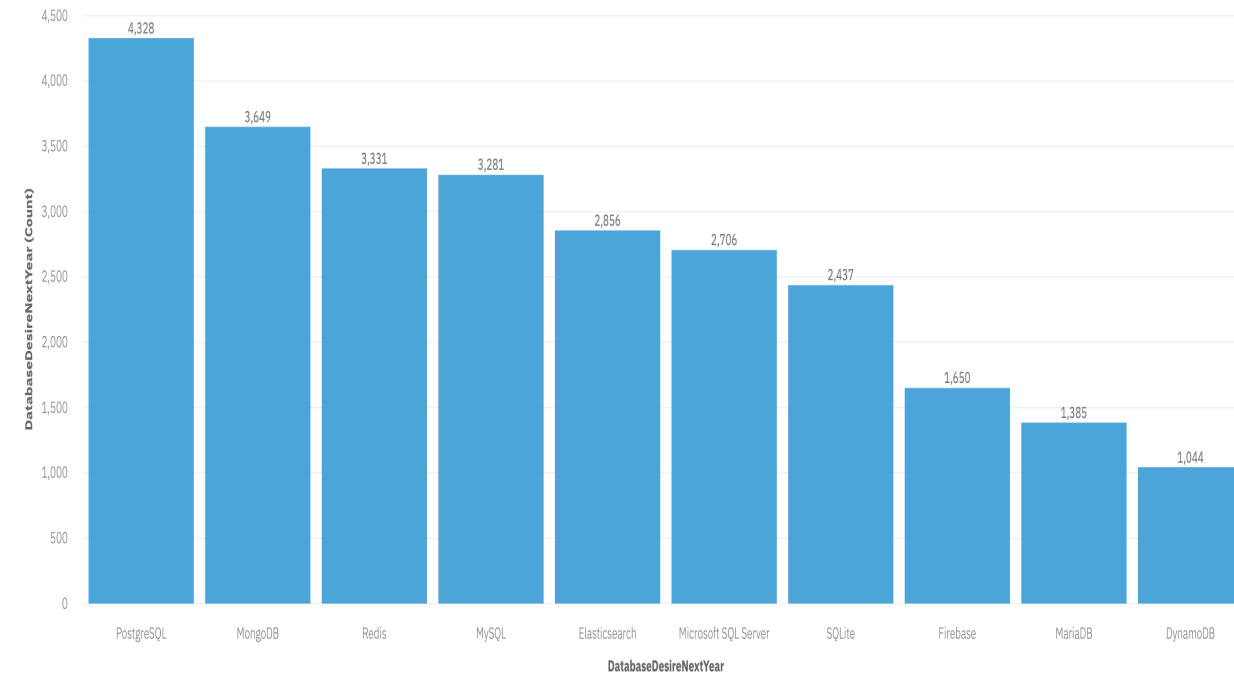
DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL, Microsoft SQL Sever, PostgreSQL are in top 3 this year.

- Oracle is out top 10 next year.

- MongoDB, Redis are in top 3 next year and PostgreSQL is the best in next year

Implications

- Open source databases are still preferable in companies

- NoSQL databases will make an impact for storing non relational data

- Redis supports abstract data types
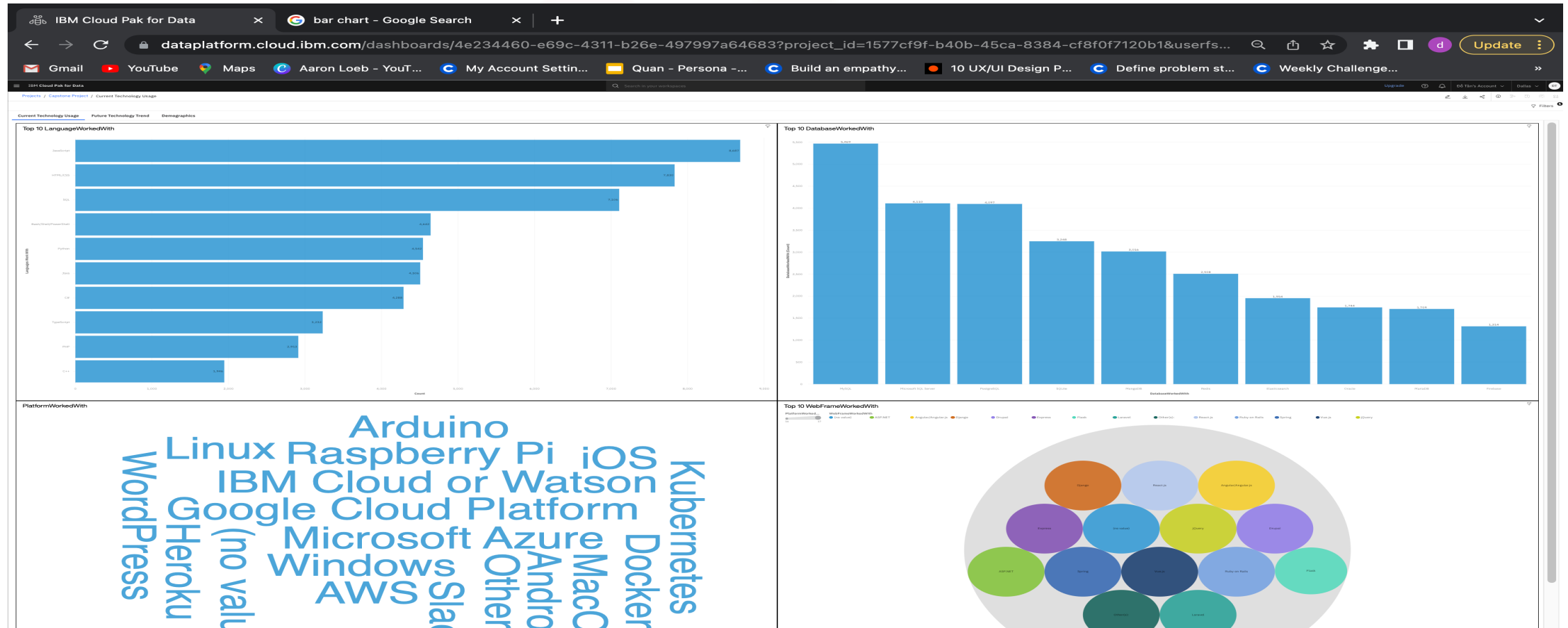
- Pre tuned search to website, app, or ecommerce store
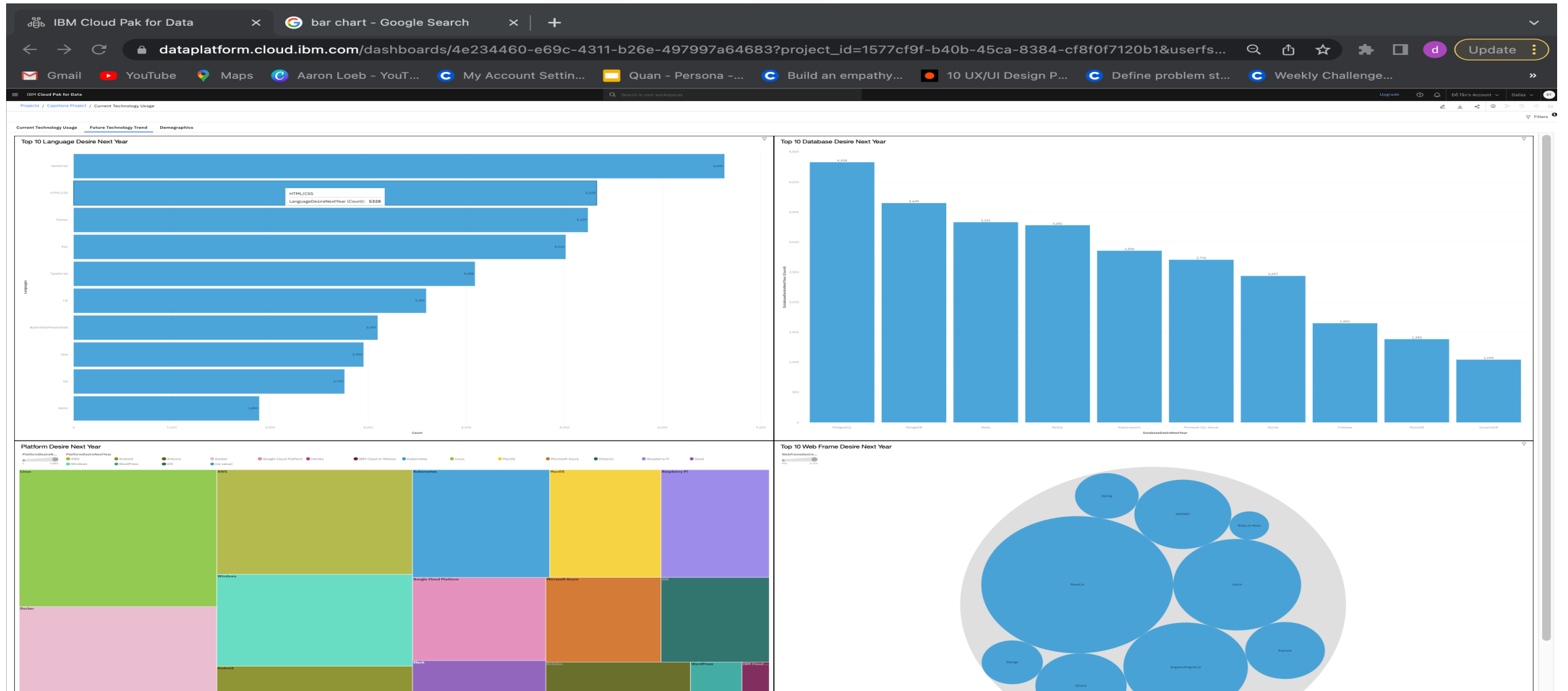
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DASHBOARD

https://dataplatform.cloud.ibm.com/dashboards/4e234460-e69c-4311-b26e-497997a64683/view/7d62f43b1a8837966af0e6e4079829017a647354e4bbd10780d77b490a332097a96a1b95c87c1d528c115364f2ee120bc8
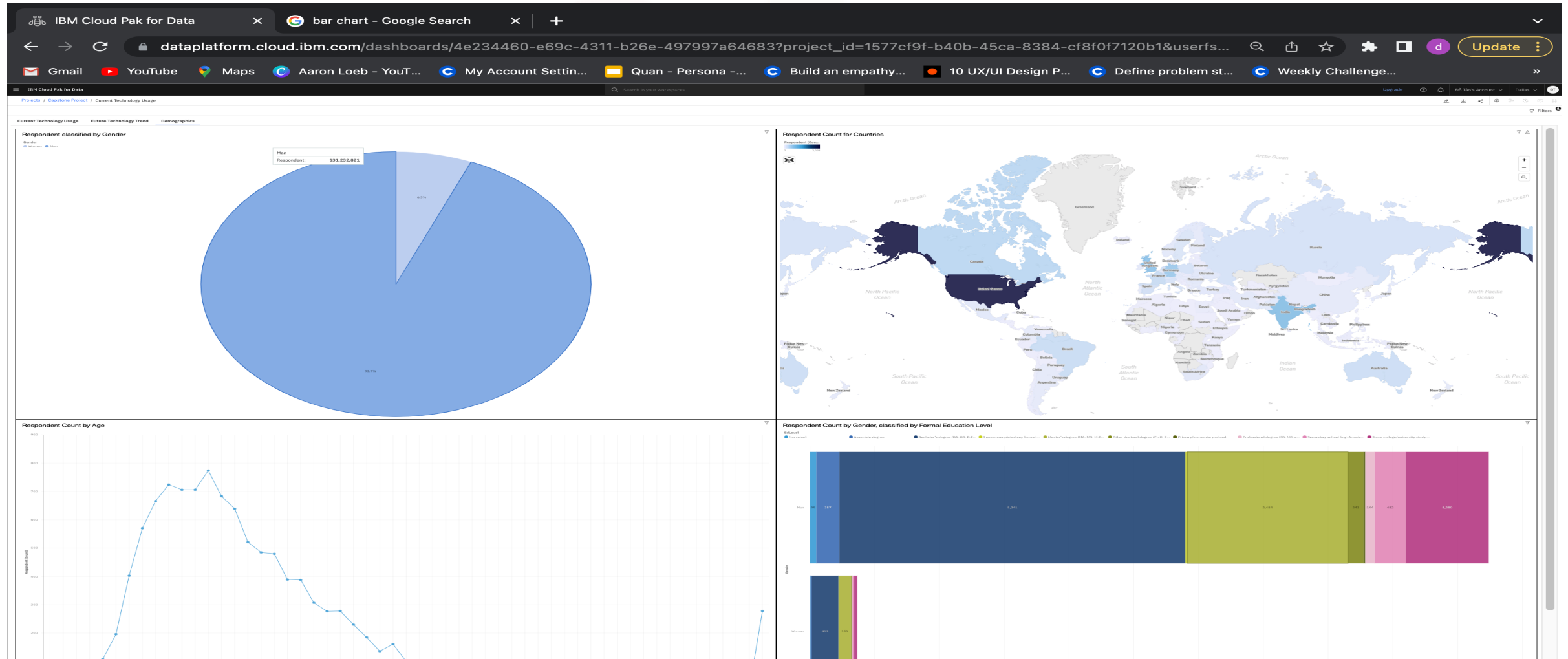
DASHBOARD TAB 1

DASHBOARD TAB 2

DASHBOARD TAB 3

DISCUSSION

- Technology Trends now and future
- Training and Reskilling workers
- Females participation in Technology field
- Bridge divide of technology gaps in developing countries
- Eliminate age and education discrimination in employment

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OVERALL FINDINGS & IMPLICATIONS

Findings

- Fast changing technology every year

- Concentration on several countries like USA and India

- Gender gap in technology jobs

- Platforms like Docker and AWS are growing

Implications

- Companies need to be flexible and adjust to rapid changes

- Need to spread technology out to lagging countries

- Impact of job hiring's

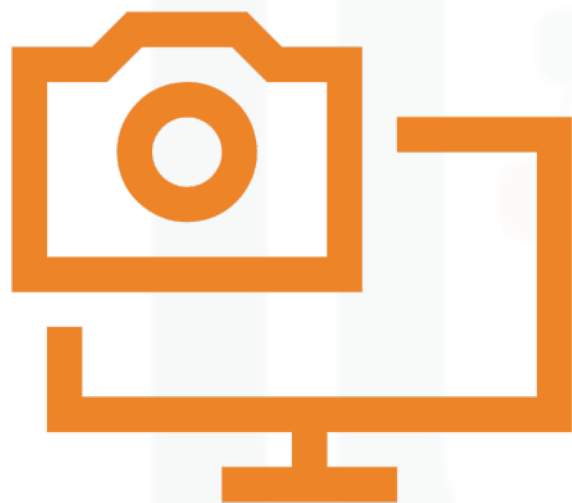- Shift to faster app deployments and cloud services in future
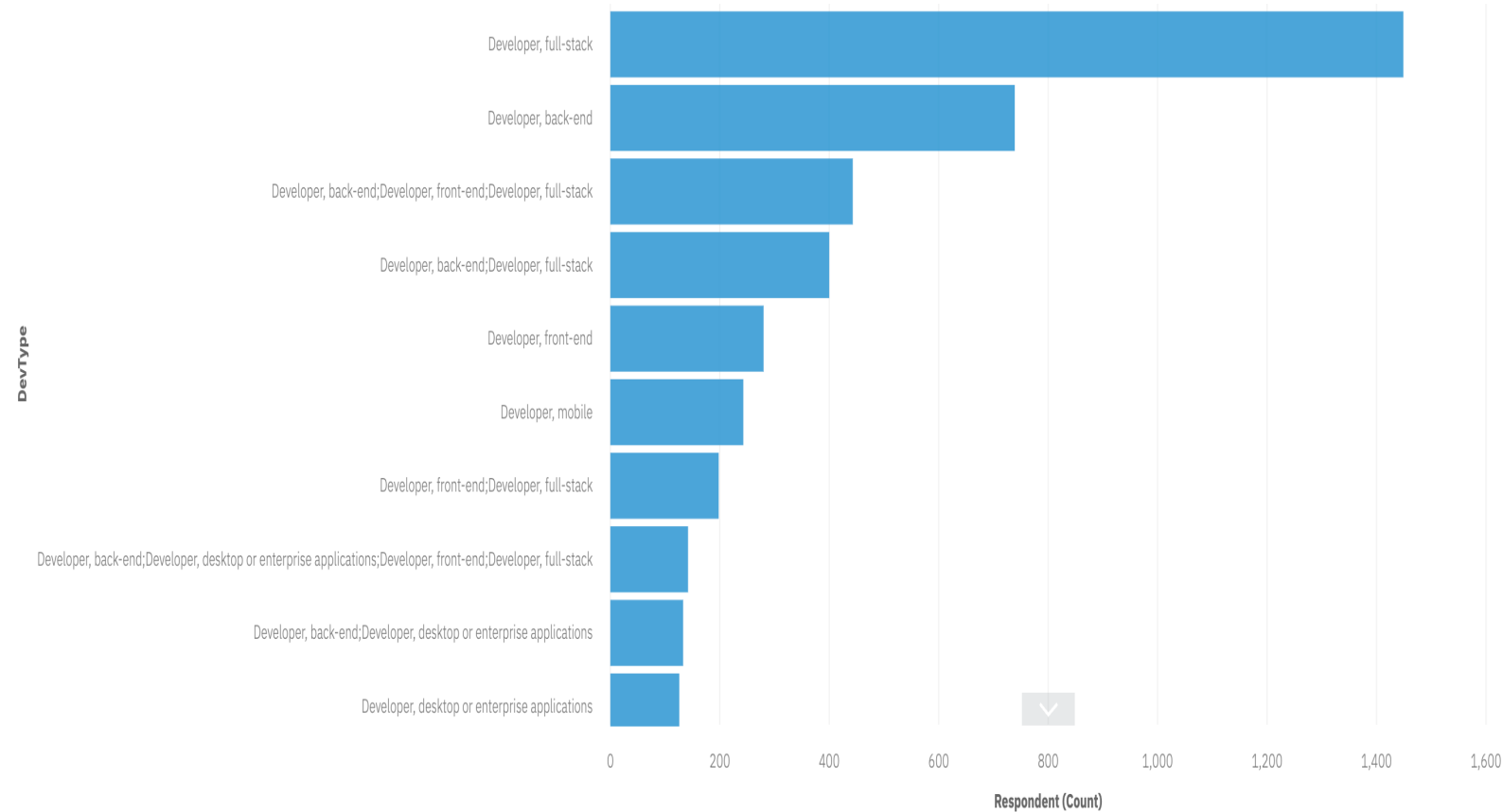
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CONCLUSION

- Technology Trends for current and next year
- Programming Languages, Database and Platform overview
- Demographics overview
- Actions to be taken
- In future, incorporate Machine Learning to predict trends and salaries
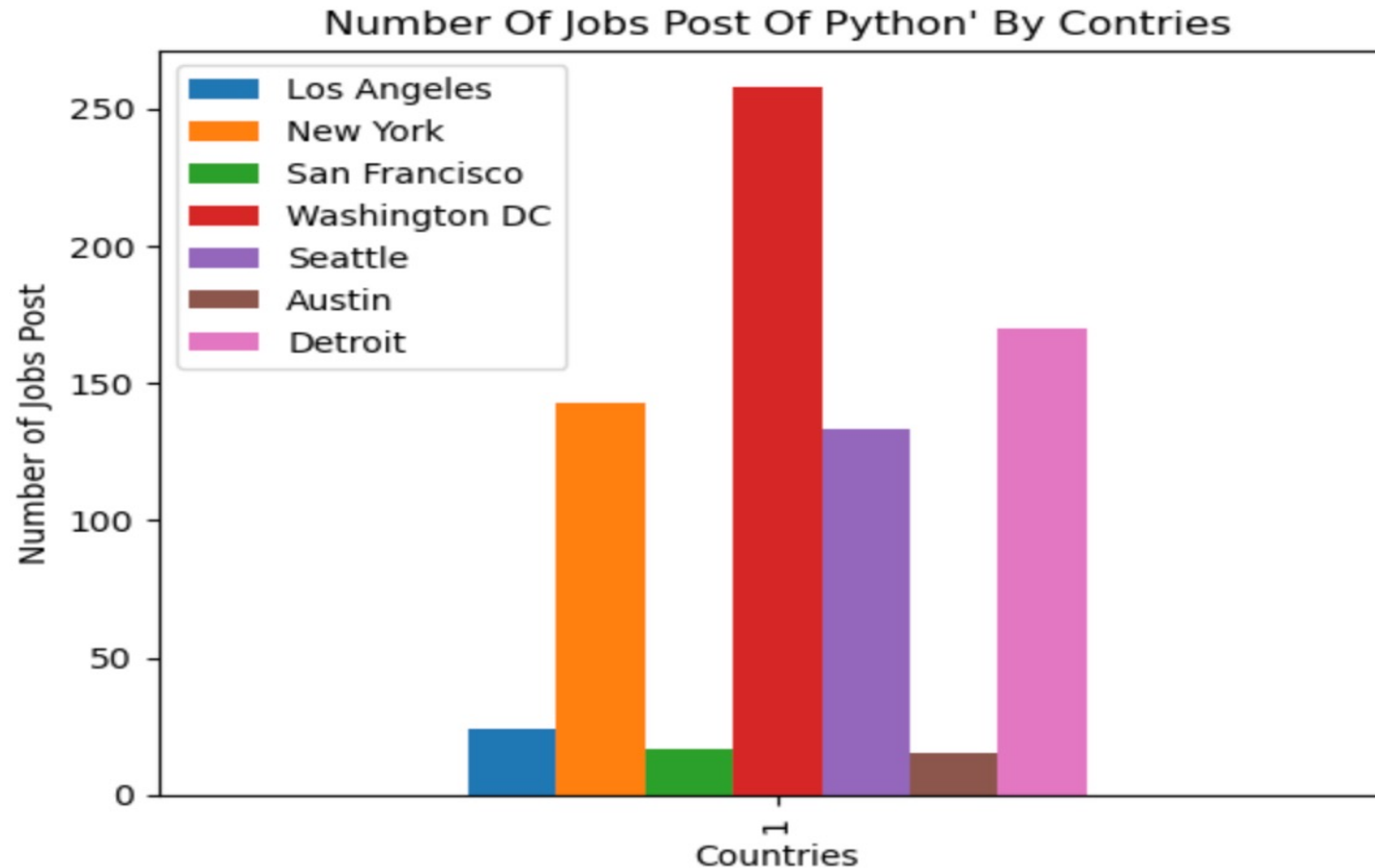
APPENDIX

Top 10 DevType base on Respontdent (Count)

JOB POSTINGS

In Module 1 you have collected the job posting data using Job API in a file named "job-postings.xlsx". Present that data using a bar chart here. Order the bar chart in the descending order of the number of job postings.

POPULAR LANGUAGES

In Module 1 you have collected the job postings data using web scraping in a file named "popular-languages.csv". Present that data using a bar chart here. Order the bar chart in the descending order of salary.