



TECHNOLOGY TRENDS & ANALYSIS

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OUTLINE



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- Introduction
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- Discussion
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EXECUTIVE SUMMARY



- Trends in Programming Languages
- Trends in Databases
- Future expectations in Programming Languages
- Future expectations in Databases
- Demographic Survey that includes:
 - Technological gap in Countries
 - Gender gap in Jobs

INTRODUCTION



- **About:**

Analyzing the trends in software development in present and future aspirations of people.

- **Purpose**

- Understanding Present demands in programming languages.
- Analyzing future skill requirements.
- Understanding Highly demanding database skills and IDEs.

METHODOLOGY



- Data Collection Sources:
 - Survey Data
- Data Exploration
- Data Cleaning
- Data Visualization
 - IBM Cognos Dashboard
- Presentation through:
 - MS-PowerPoint

RESULTS

Results are based on this Survey Data:

A	B	C	D	E	F	G	H	I	J
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/AngularJS	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				
16	Bash/Shell/PowerShell	C#	MongoDB	Elasticsearch		AWS	Angular/AngularJS	Angular/AngularJS	Visual Studio
16	C#	HTML/CSS	Microsoft SQL Server	MongoDB		Google Cloud Platform	ASP.NET	ASP.NET	Visual Studio
16	HTML/CSS	JavaScript	MySQL	Microsoft SQL Server		Microsoft Azure	jQuery	React.js	
16	JavaScript	TypeScript		SQLite					
16	TypeScript	WebAssembly							

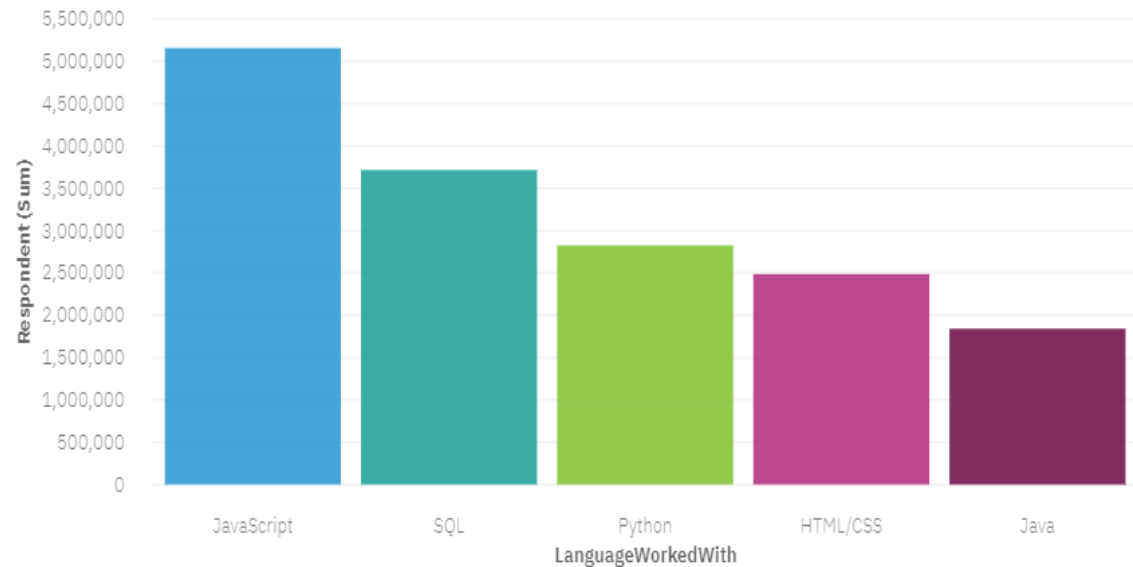
PROGRAMMING LANGUAGE TRENDS

Current Year

TOP 5 PROGRAMMING LANGUAGES

LanguageWorkedWith

- HTML/CSS
- Java
- JavaScript
- Python
- SQL

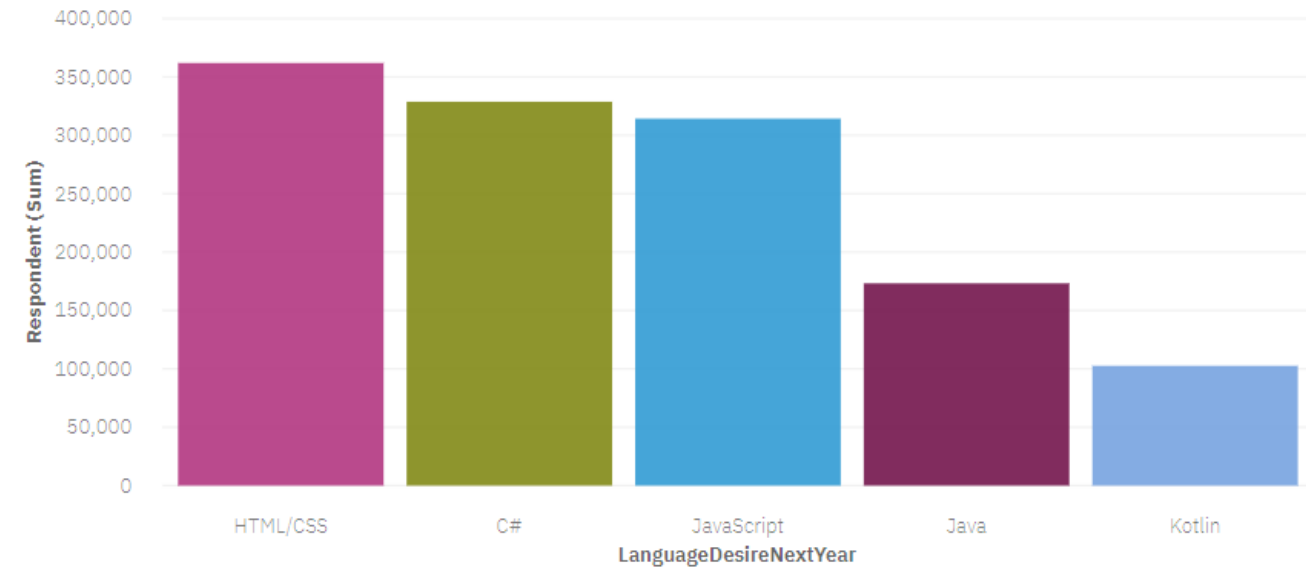


Next Year

TOP 5 FUTURE PROGRAMMING LANGUAGE

LanguageDesireNextYear

- C#
- HTML/CSS
- Java
- JavaScript
- Kotlin



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

FINDINGS

- JavaScript , SQL and Python are currently the leading languages.
- HTML/CSS will be popular in future years.
- JavaScript will be still demanding in Future.

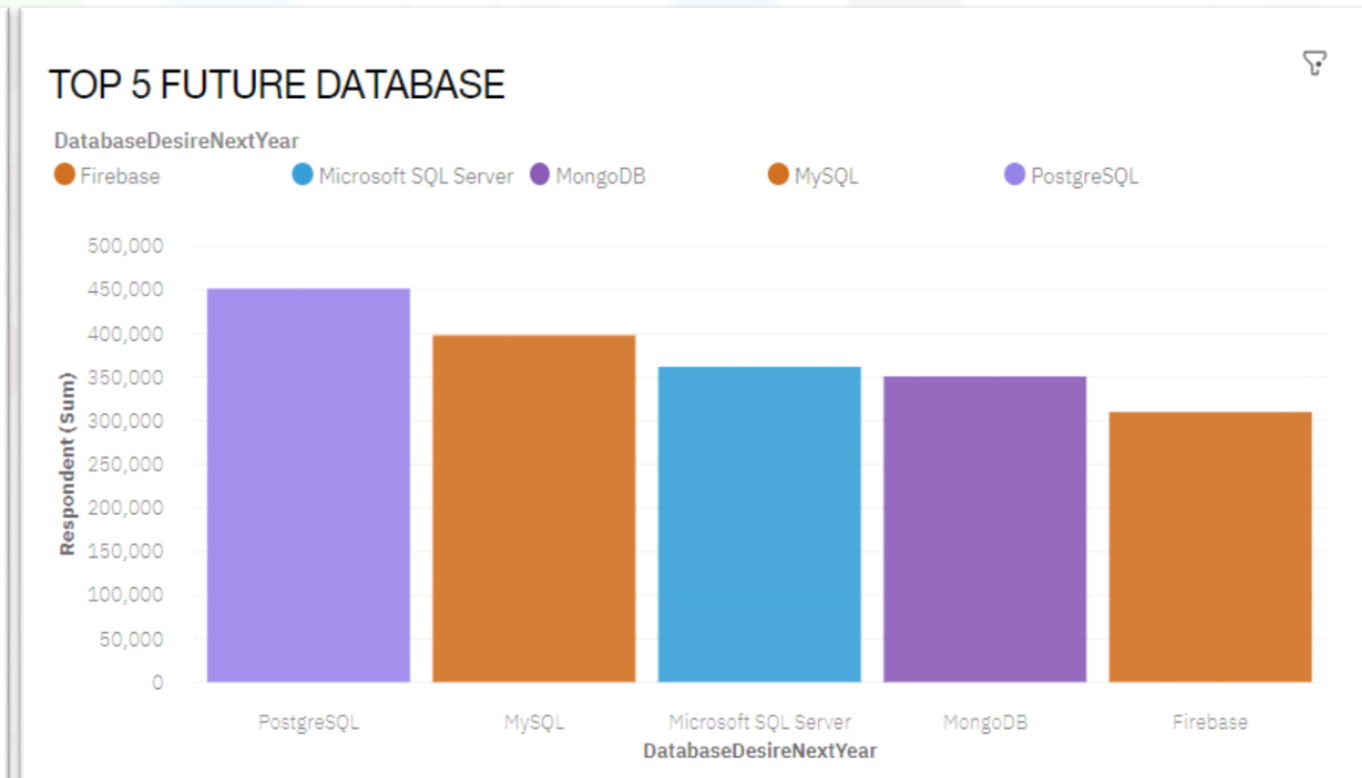
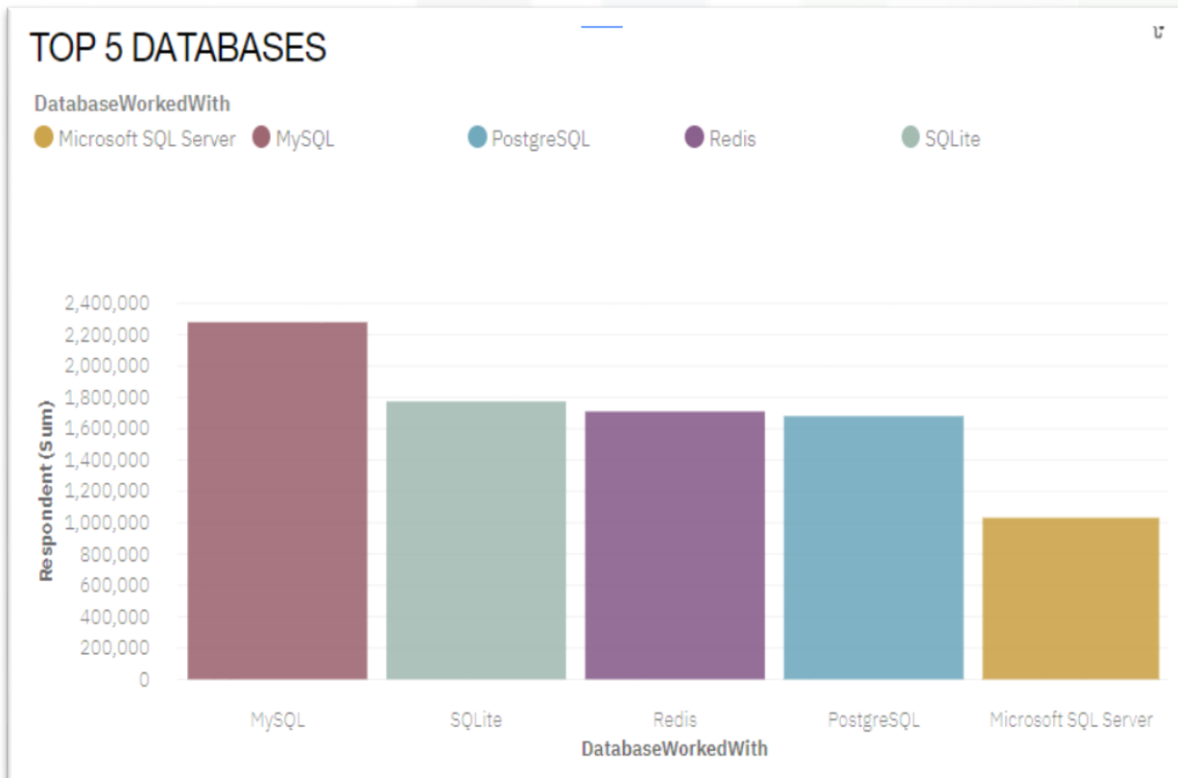
IMPLICATIONS

- Big Data Companies will need SQL learners.
- Python will be required as advancement in ML/AI.
- JavaScript will be required for Web or App Development.

DATABASE TRENDS

Current Year

Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL , SQLite and Redis are currently the leading Database.
- MongoDB will be popular in future years.
- MySQL will be still demanding in Future.

Implications

- Open source Database are still favorable .
- Redis supports abstract data types
- Firebase will became popular to build apps on android & iOS on its platform.

DASHBOARD



<https://eu-de.dataplatform.cloud.ibm.com/dashboards/538baf02-ff83-41ba-af71-6069fb0396f8/view/621bc31819952af641bdb1e407cc2c507c652d09b2bbd65089d47b495a627797f36e1698c82b4e5b8f120d36f2e91350cb>

PRESENT TECHNOLOGY DASHBOARD

Current TECH

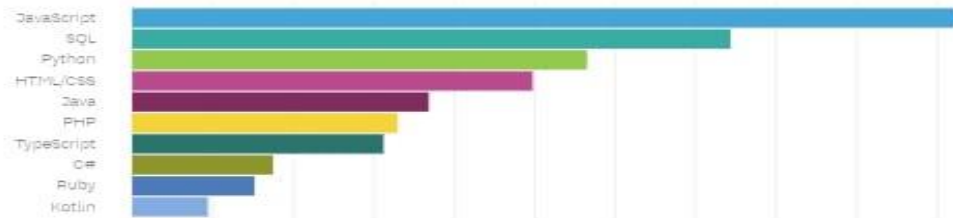
Future TECH

DEMOGRAPHICS

TOP 10 PROGRAMMING LANGUAGES

LanguageWorkedWith

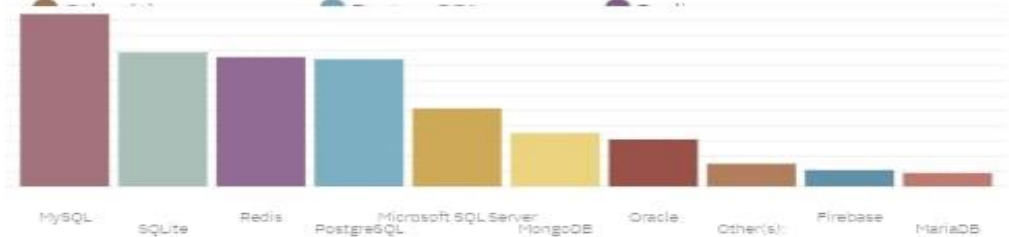
● C# ● HTML/CSS ● Java ● JavaScript ● Kotlin
● PHP ● Python ● Ruby ● SQL ● TypeScript



TOP 10 DATABASES

DatabaseWorkedWith

● Firebase ● MariaDB ● Microsoft SQL Server
● MongoDB ● MySQL ● Oracle



DIFFERENT PLATFORMS

Respondent (Sum)

2,532,293 72,858,619

PlatformWorkedWith

● AWS ● Android ● Docker
● Arduino



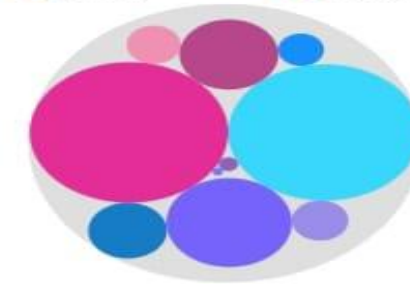
TOP 10 DATAFRAMES

Respondent (Sum)

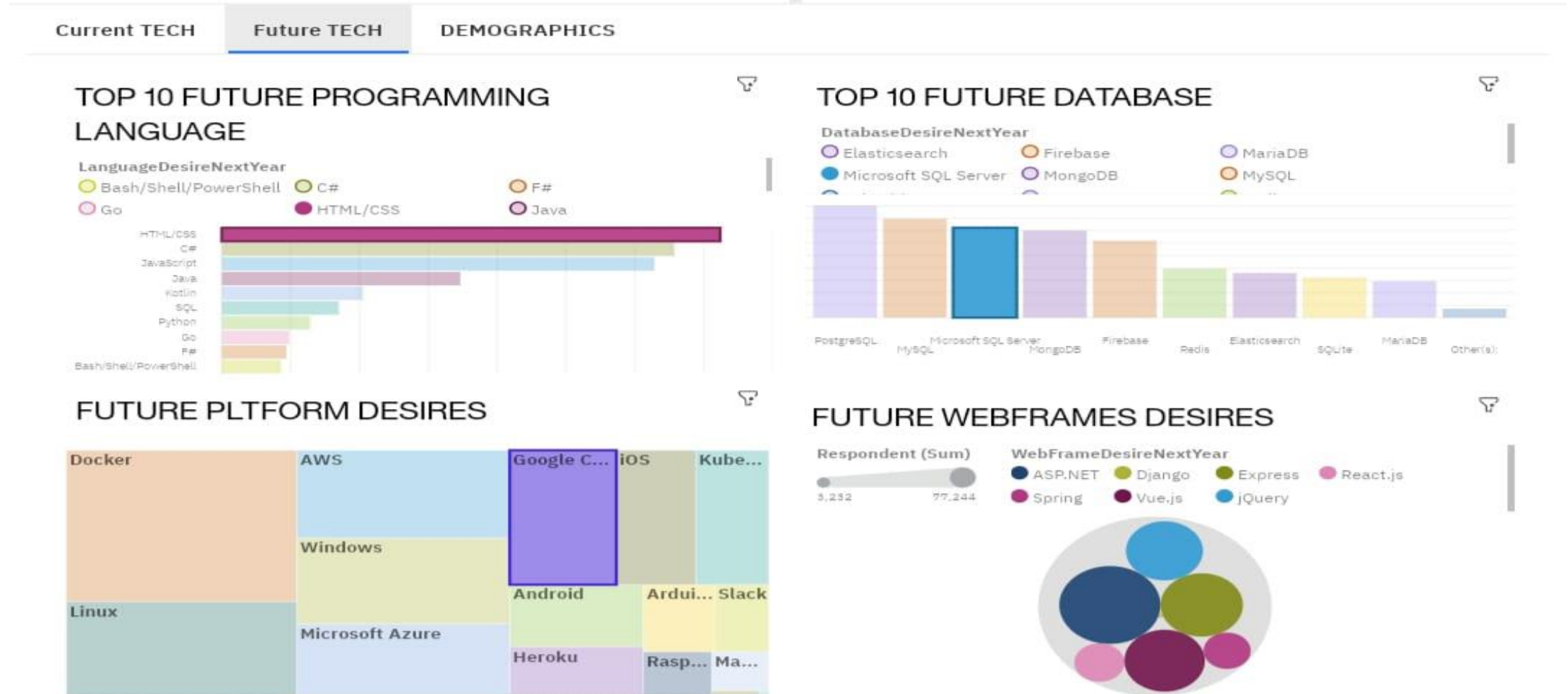
2,532,293 72,858,619

WebFrameWorkedWith

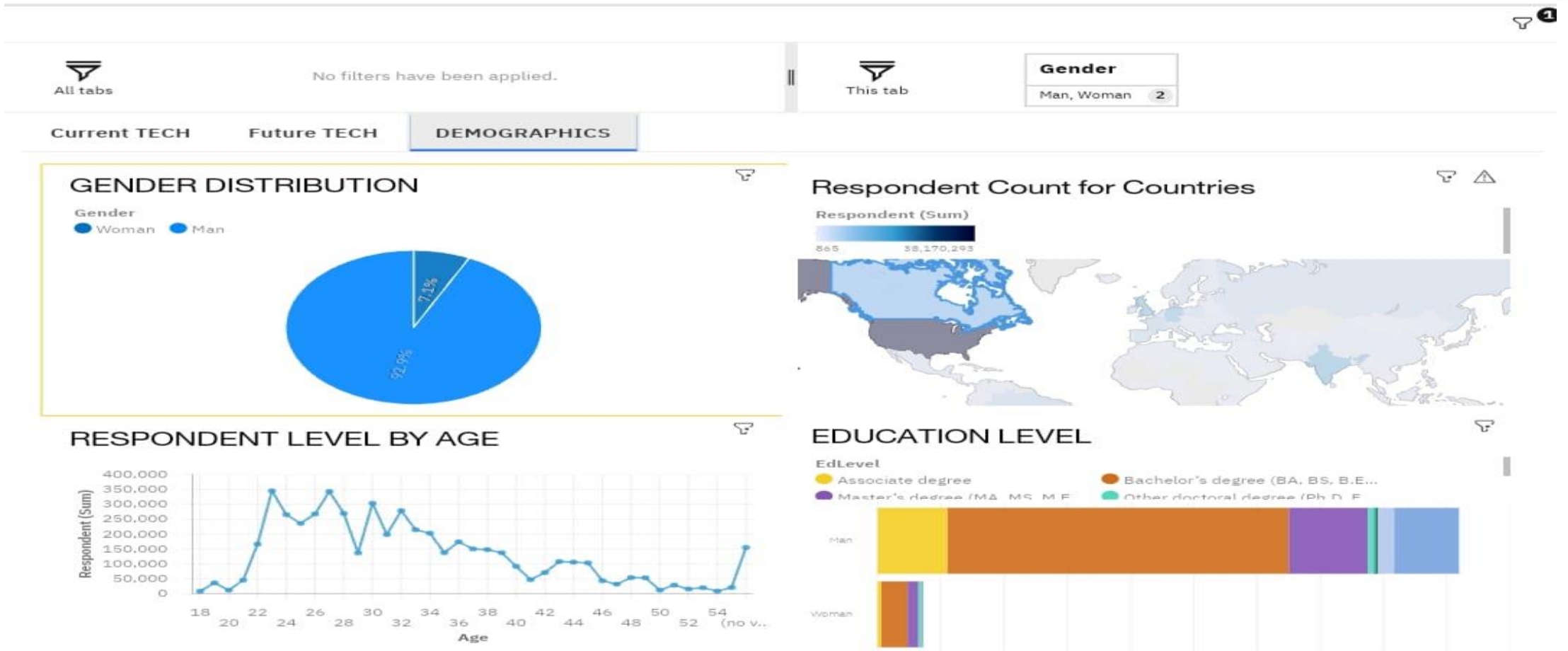
● ASP.NET ● Angular/Angular.js



DASHBOARD 2 (FUTURE TECHNOLOGY)



DEMOGRAPHIC DASHBOARD



DISCUSSION



- Technology Trends in Present and in Future
- Gender gap in jobs
- Technological gaps between developed and developing countries
- Reskilling of workers
- Reducing Age and education discrimination

OVERALL FINDINGS & IMPLICATIONS

FINDINGS

- **FAST CHANGING TECHNOLOGY**
- **GENDER GAPS IN EMPLOYMENT**
- **NEGLECTING POOR COUNTRIES IN TERMS OF TECHNOLOGY**

IMPLICATIONS

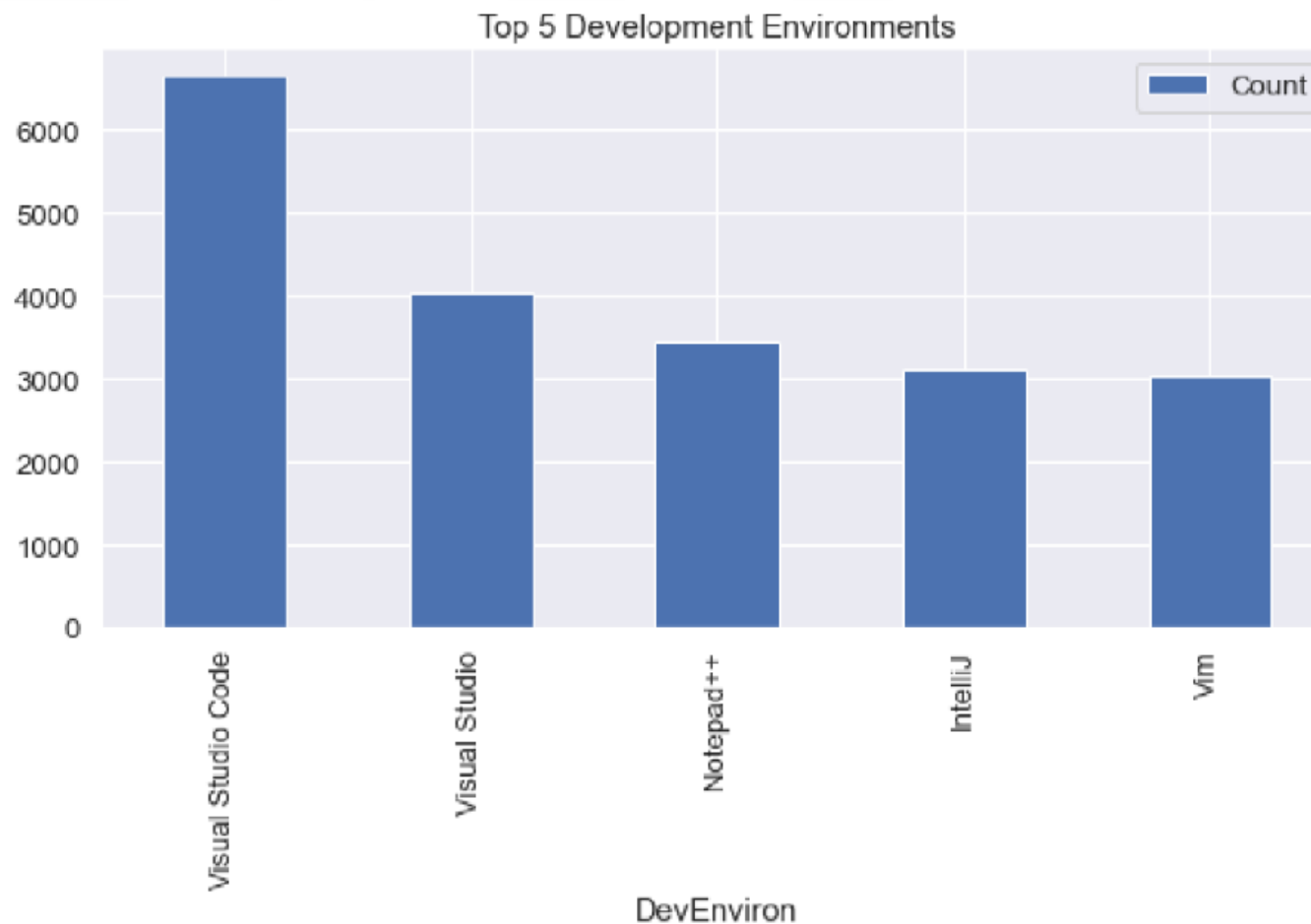
- Companies need to adopt to changing technologies as soon as possible
- Women needs to be provided technical jobs too
- Every country should be provided equal opportunity in terms of technology

CONCLUSION



- Technological trends for present and Future years
- Machine Learning to be incorporated for better analysis
- Demographic overview try to should be identical for every country
- Women should be in Technical jobs too .

APPENDIX



GITHUB JOB POSTINGS



POPULAR LANGUAGES

