Technology Trends and Analysis

DIKSHA SAPRA

5th May, 2023

OUTLINE

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

IBM **Dev**loper

SKILLS NETWORK

EXECUTIVE SUMMARY

- Trends in programing languages and databases

- Demographics Survey

- Technological gap in countries

- Gender gap in jobs

INTRODUCTION

About:

Analyzing trends in software development.

Purpose:

➢Identify skill requirements for future.

➢What are top programing languages in demand.

➢What are top databases skills in demand.

Audience: Human Resource and IT Head.

IBM **Developer**
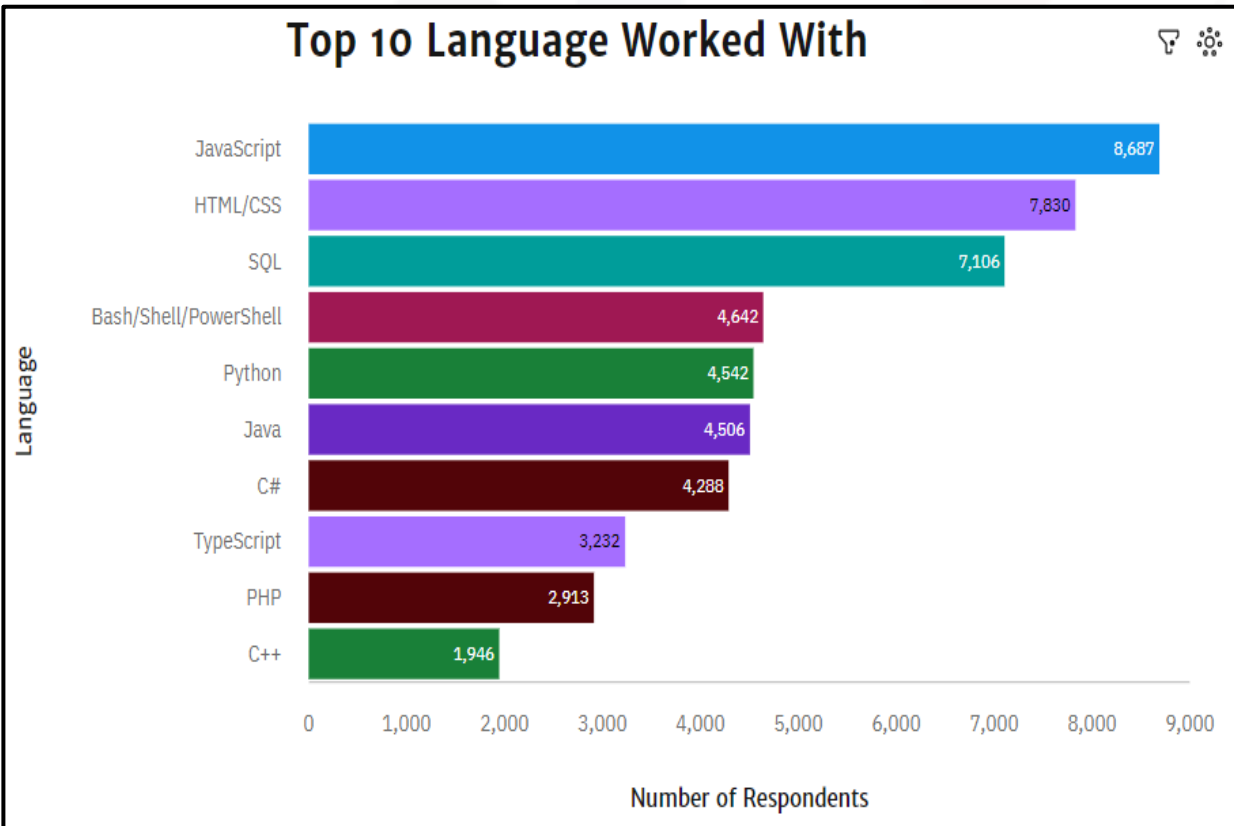
SKILLS NETWORK

METHODOLOGY

- **Data Collection Sources**
  - Stack Overflow Developer 2019 Survey
  - GitHub Job Postings
  - Programming Languages Annual Salary

- **Data Exploration**

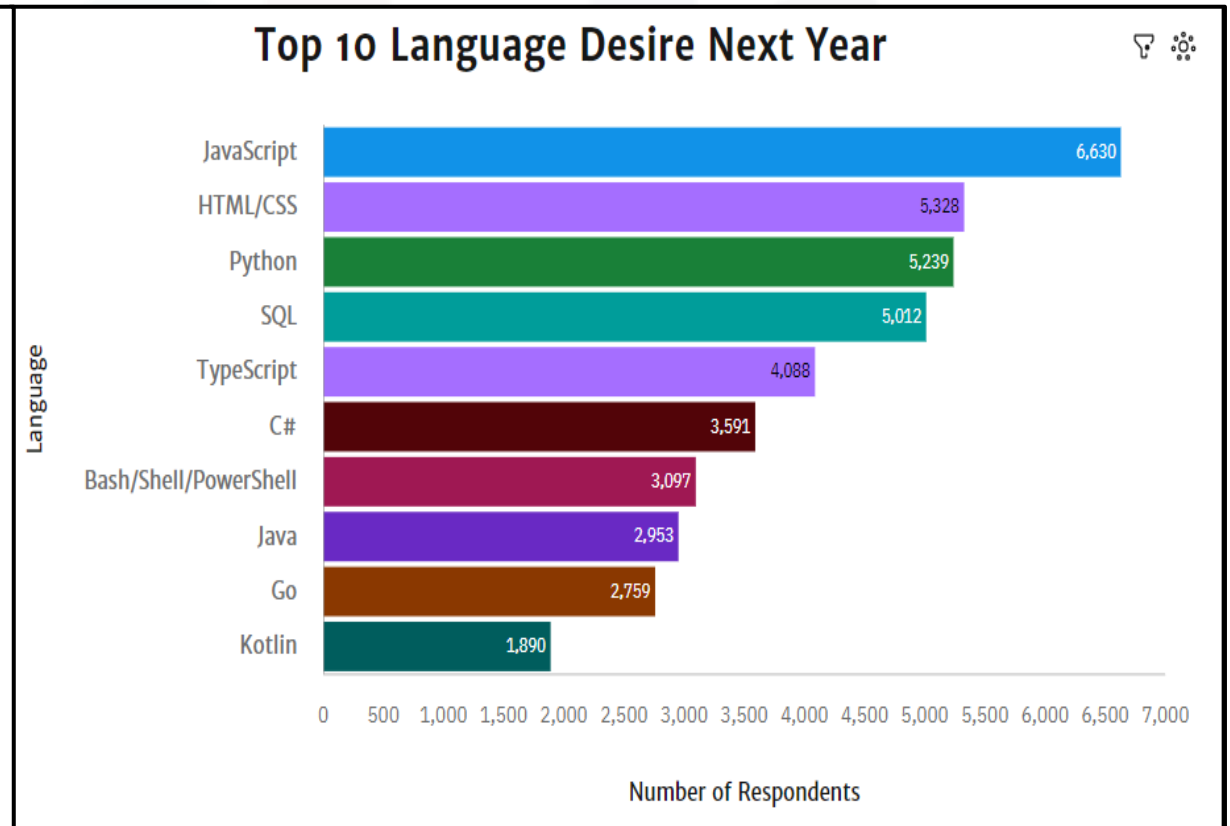- **Data Cleaning**

- **Data Visualization**

- **Presentation**

IBM **Developer**

SKILLS NETWORK

PROGRAMMING LANGUAGE TRENDS

Current Year

Next Year

Top 10 Language Worked With

Language	Number of Respondents
JavaScript	8,687
HTML/CSS	7,830
SQL	7,106
Bash/Shell/PowerShell	4,642
Python	4,542
Java	4,506
C#	4,288
TypeScript	3,232
PHP	2,913
C++	1,946

Top 10 Language Desire Next Year

Language	Number of Respondents
JavaScript	6,630
HTML/CSS	5,328
Python	5,239
SQL	5,012
TypeScript	4,088
C#	3,591
Bash/Shell/PowerShell	3,097
Java	2,953
Go	2,759
Kotlin	1,890

IBM Developer

SKILLS NETWORK

PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Java, HTML/CSS, SQL are top 3 this year.

- Python & Typescript are becoming popular in coming years.
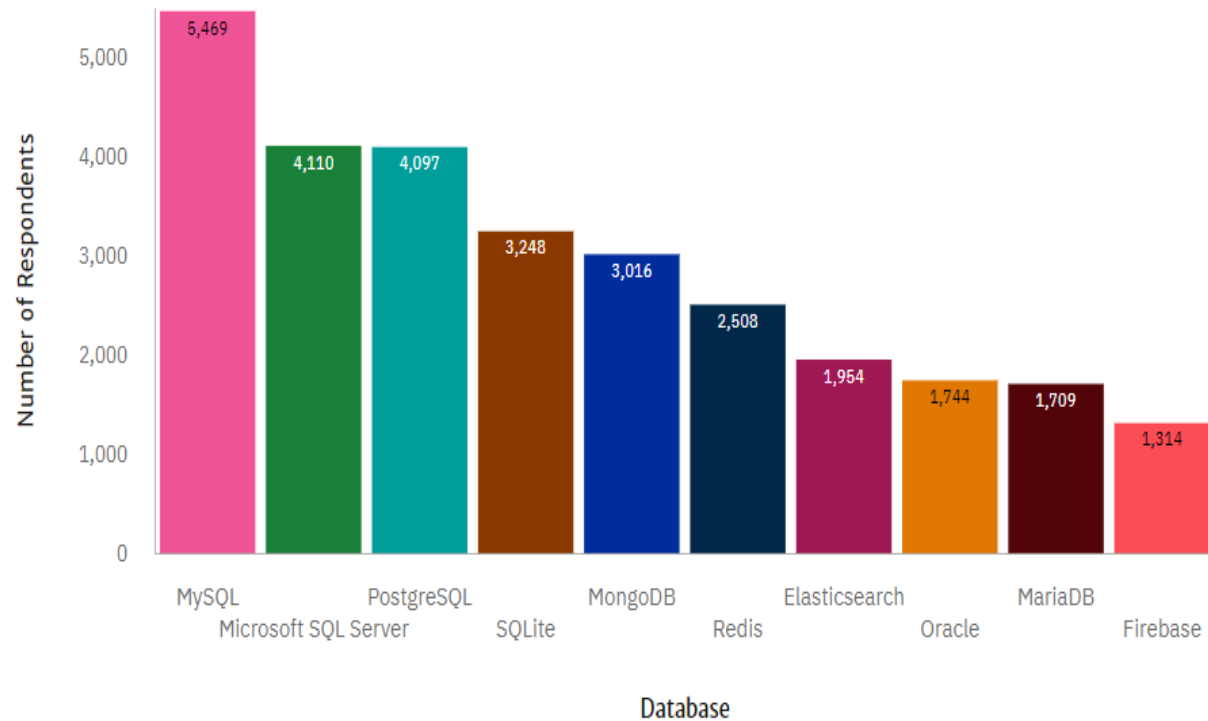
- C++ edged out in next year.

Implications

- Web development still in high demand.

- Big Data Tech companies require SQL.
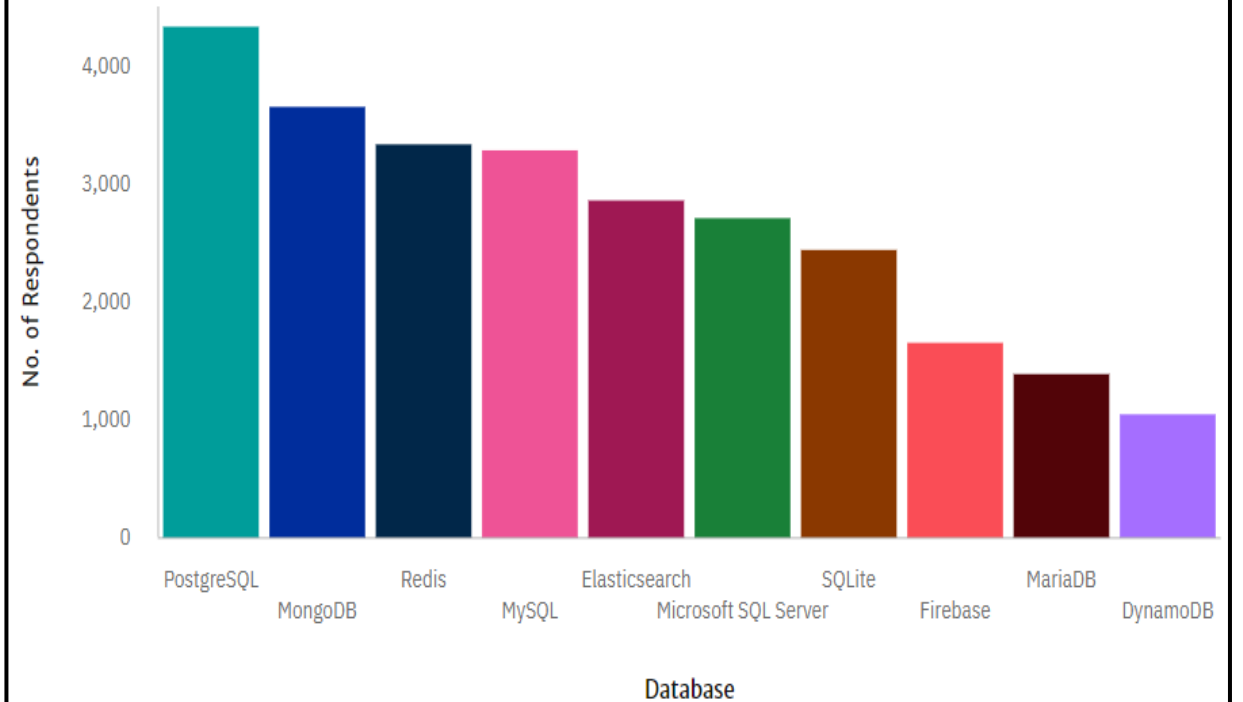
- Python is becoming the best choice in coming years.

IBM **Dev**_o_loper

SKILLS NETWORK

DATABASE TRENDS

Current Year

Next Year

Top 10 Database Worked With

Number of Respondents

Database	Value
MySQL	5,469
Microsoft SQL Server	4,110
PostgreSQL	4,097
SQLite	3,248
MongoDB	3,016
Redis	2,508
Elasticsearch	1,954
Oracle	1,744
MariaDB	1,709
Firebase	1,314

Top 10 Database Desire Next Year

No. of Respondents

Database: PostgreSQL, MongoDB, Redis, MySQL, Elasticsearch, Microsoft SQL Server, SQLite, Firebase, MariaDB, DynamoDB

DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL is most popular.

- MongoDB and Redis are upcoming.

- Oracle will get vanished by next year.

Implications

- Open source databases are preferred.

- Redis supports abstract data types.

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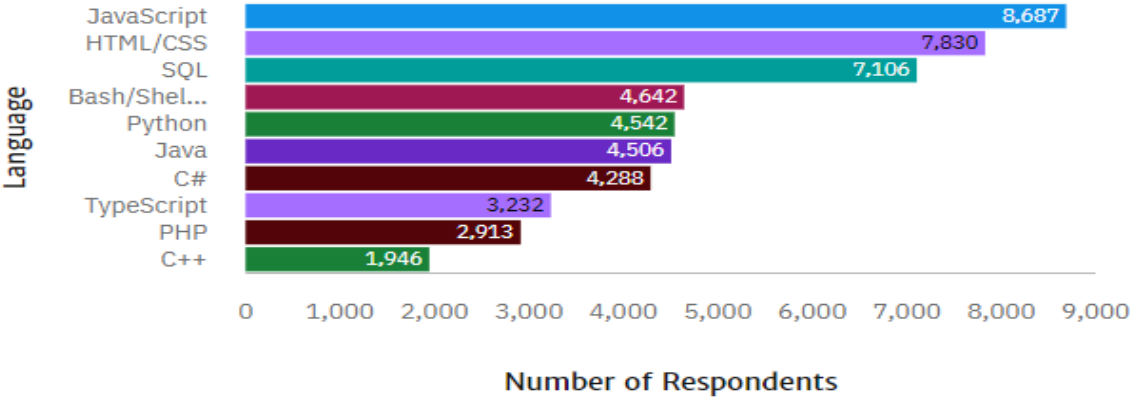
DASHBOARD

[https://us3.ca.analytics.ibm.com/bi/?perspective=dashboard&pathRef=.my_folders%2FCapstone%2BProject%2FFinal%2BDashboard&action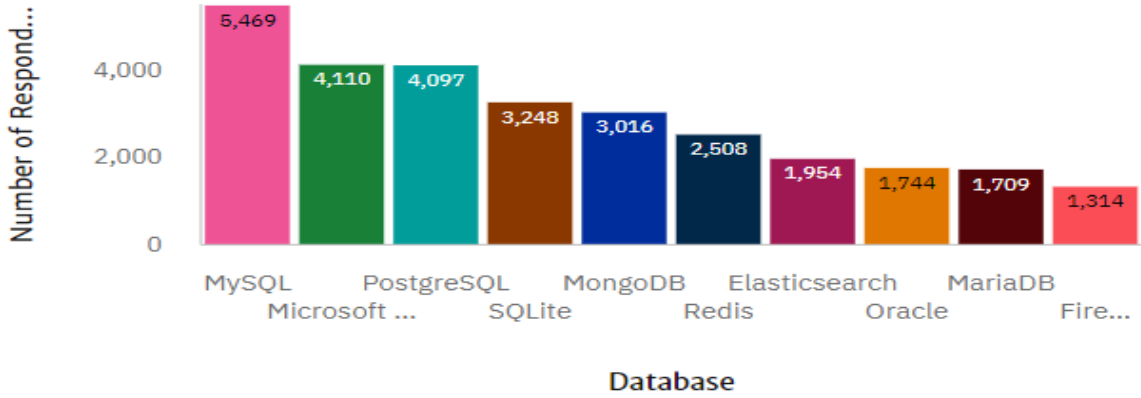=view&mode=dashboard&subView=model000001888b4670b5_00000002](https://us3.ca.analytics.ibm.com/bi/?perspective=dashboard&pathRef=.my_folders%2FCapstone%2BProject%2FFinal%2BDashboard&action=view&mode=dashboard&subView=model000001888b4670b5_00000002)

IBM Developer

SKILLS NETWORK

DASHBOARD TAB 1

Top 10 Language Worked With

Language	Number of Respondents
JavaScript	8,687
HTML/CSS	7,830
SQL	7,106
Bash/Shel...	4,642
Python	4,542
Java	4,506
C#	4,288
TypeScript	3,232
PHP	2,913
C++	1,946

Top 10 Database Worked With

Database	Number of Respondents
MySQL	5,469
PostgreSQL	4,110
Microsoft ...	4,097
SQLite	3,248
MongoDB	3,016
Redis	2,508
Elasticsearch	1,954
Oracle	1,744
MariaDB	1,709
Fire...	1,314

Platform Worked With

AWS — Linux — Windows — Docker — Kubernetes — Android — WordPress — IBM Cloud or Watson — Arduino — Google Cloud Platform — Microsoft Azure — Raspberry Pi — Slack — iOS — Heroku — MacOS — Other(s)

Top 10 Web Frame Worked With
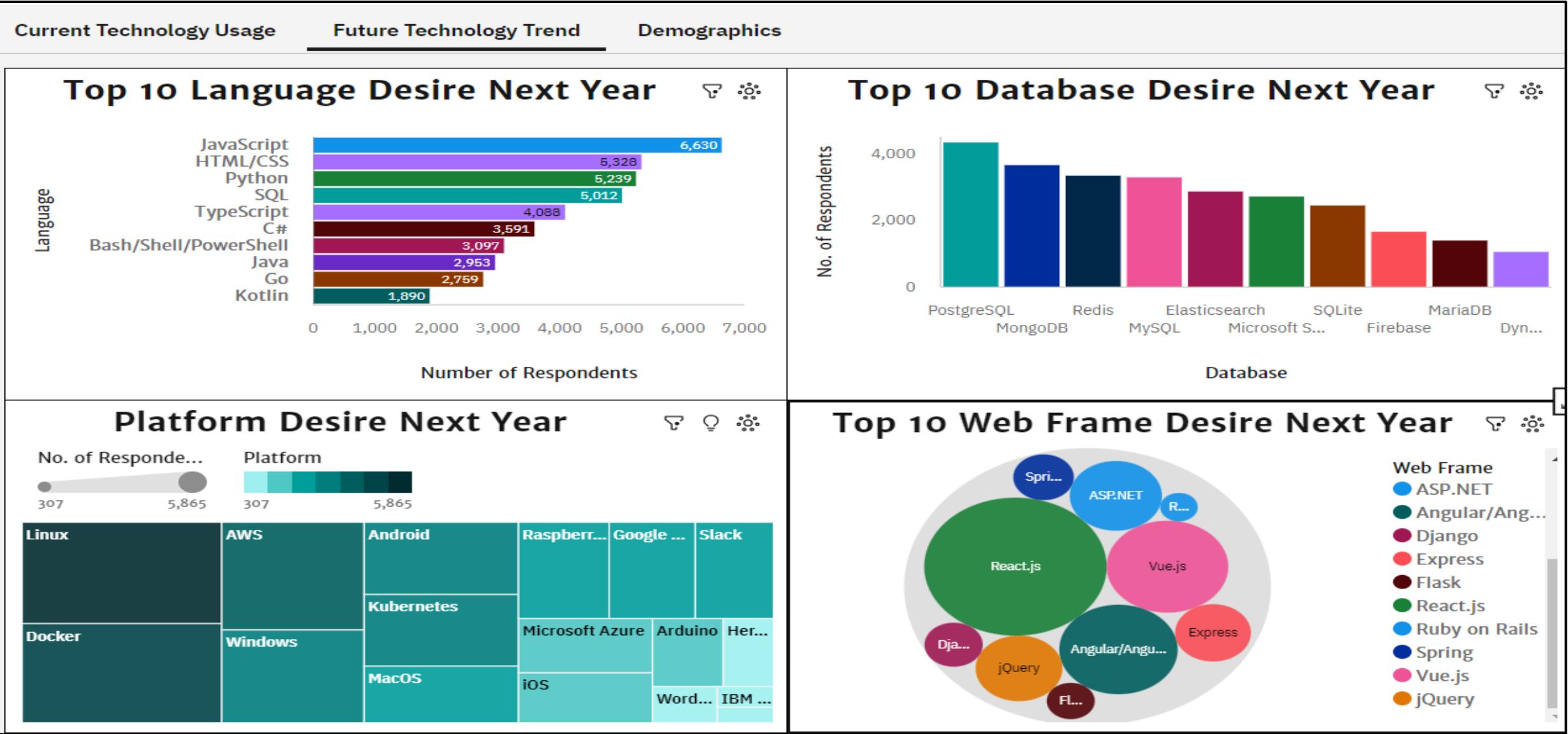
Web Frame:
- ASP.NET
- Angular/Angular.js
- Django
- Express
- Flask
- Laravel
- React.js
- Spring
- Vue.js
- jQuery

IBM Developer

SKILLS NETWORK
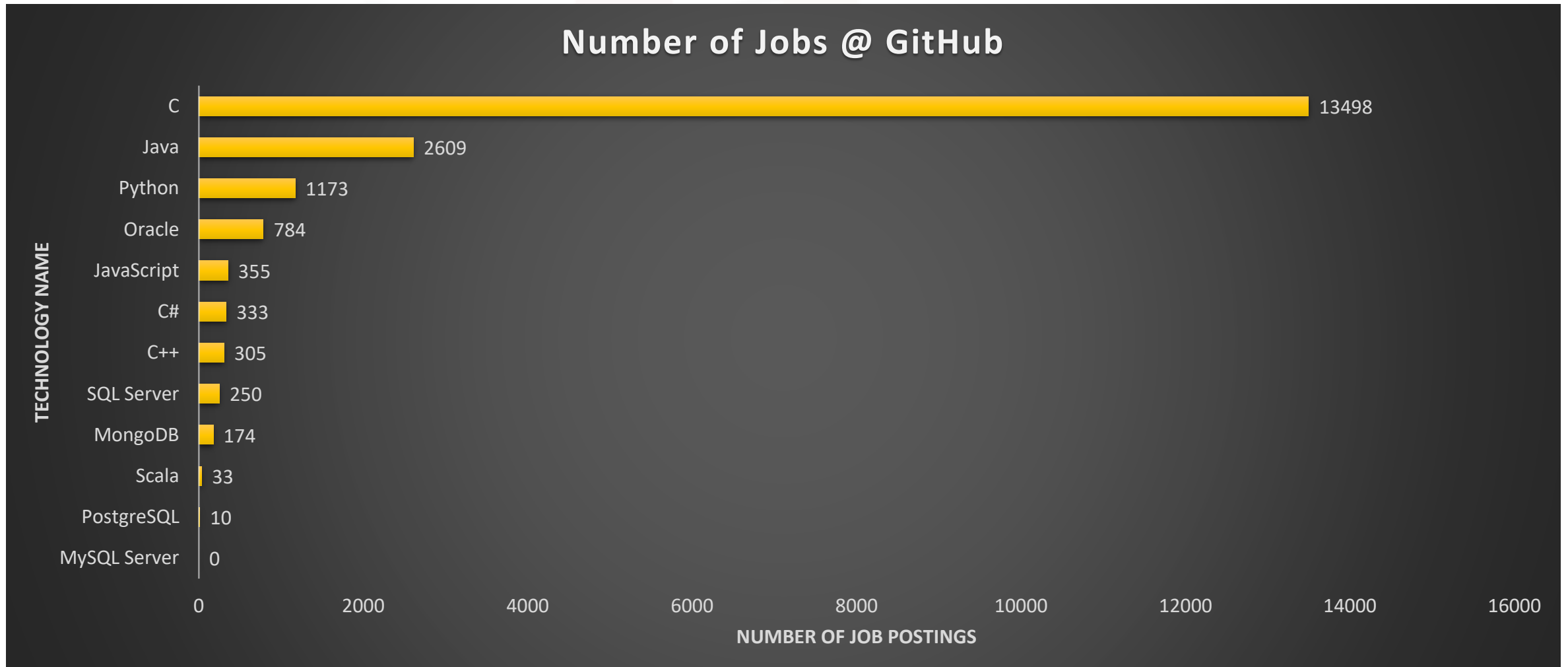
DASHBOARD TAB 2

DASHBOARD TAB 3
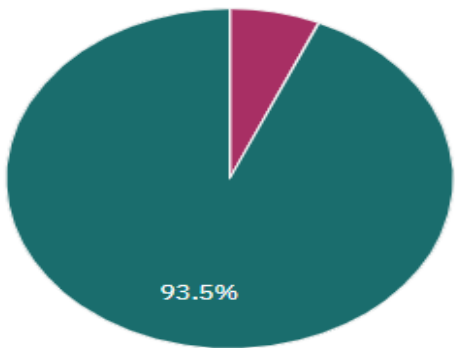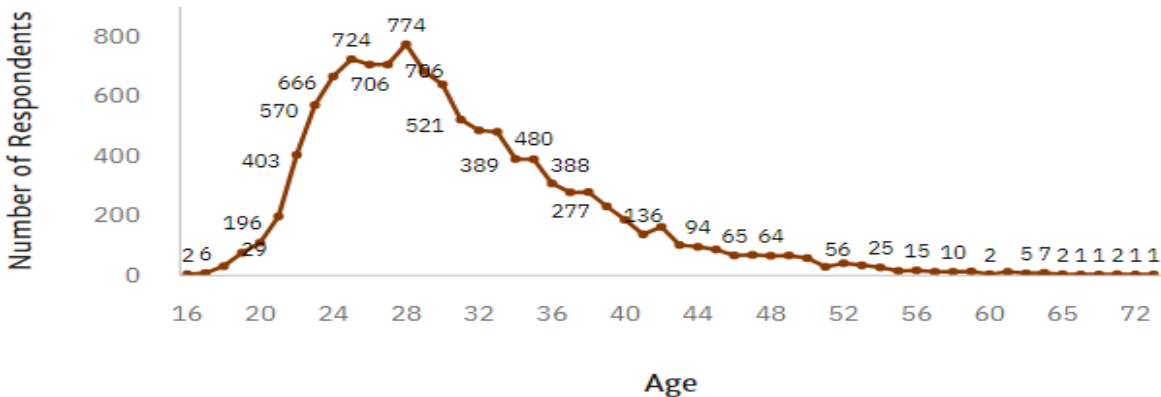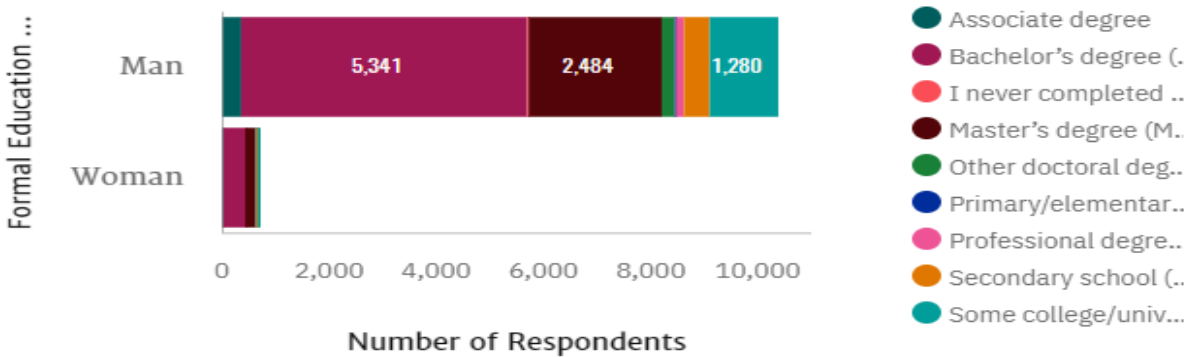
CONCLUSION

- Technology Trends now and future.

- Training and reskilling workers.

- Female participation in technology field.

- Eliminate age , gender and education discrimination in employment.

JOB POSTINGS

Number of Jobs @ GitHub

TECHNOLOGY NAME	NUMBER OF JOB POSTINGS
C	13498
Java	2609
Python	1173
Oracle	784
JavaScript	355
C#	333
C++	305
SQL Server	250
MongoDB	174
Scala	33
PostgreSQL	10
MySQL Server	0

IBM Developer

SKILLS NETWORK

POPULAR LANGUAGES

Average Annual Salary