



IBM DATA ANALYSIS CAPSTONE PROJECT: TECHNOLOGY TRENDS

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OUTLINE



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



- Current technology usage in terms of programming languages and databases trends.
- Future technology trend in terms of Language desire next year, database desire next year, platform desire next year, and webframe desire next year.
- Demographics survey in terms of age, gender, location and education level was taken.

INTRODUCTION



About: Analyzing the trends in software development

Purpose:

- Identify skill requirements for the future
- What are the top programming languages and databases in demand?
- What gender should get more involved with technology?
- What are the popular IDEs?

Audience: HRM and IT Head

METHODOLOGY



- **Data Collection**
 - Stack Overflow Developer 2019 Survey
 - GitHub Job Postings
 - Programming Languages Annual Salary
- **Data Exploration**
- **Data Wrangling**
- **Data Analysis**
- **Data Visualization**
- **Presentation of findings**

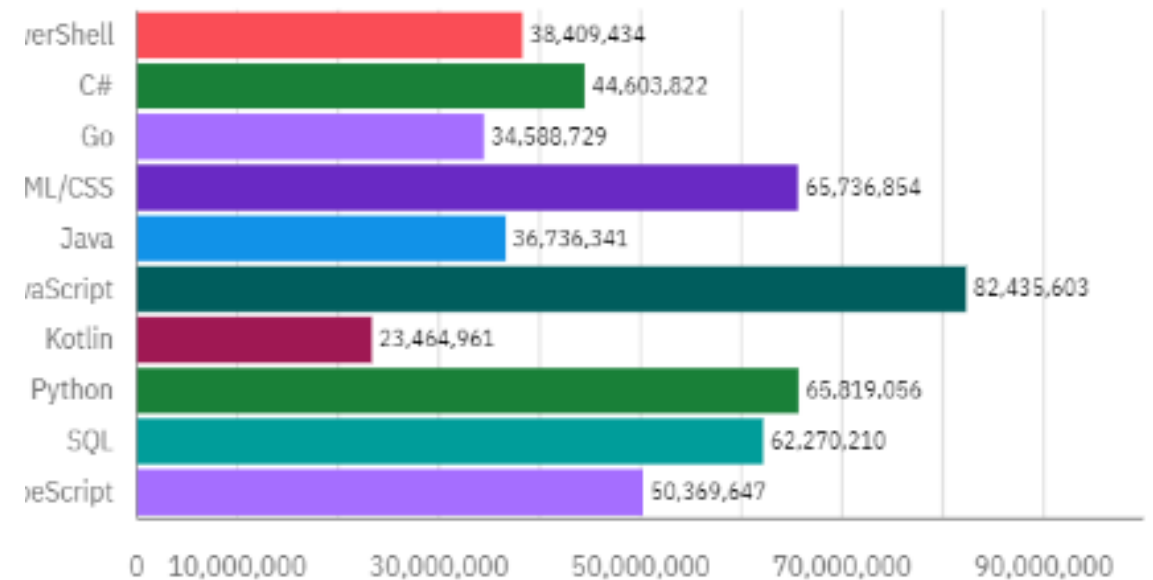
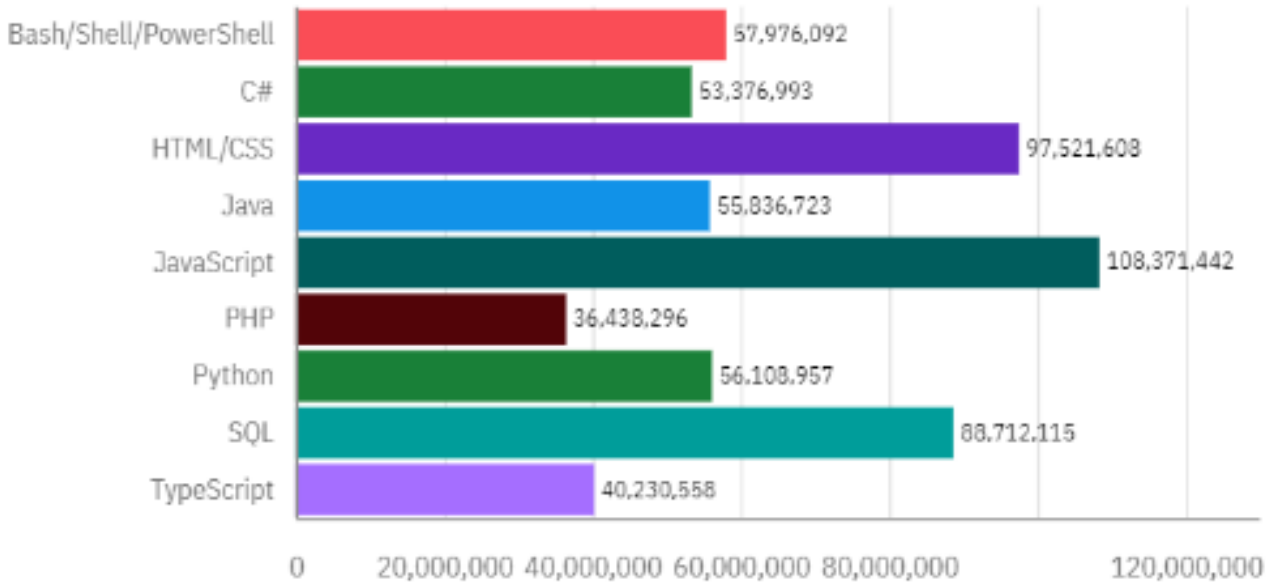
RESULTS

Row Id	Respondent	LanguageWorkedWith	LanguageD...NextYear	DatabaseWorkedWith	DatabaseD...NextYear	Pl
1	4	C	C	MySQL	MySQL	
2	4	C++	C#	SQLite	SQLite	
3	4	C#	JavaScript	Null	Null	
4	4	Python	SQL	Null	Null	
5	4	SQL	Null	Null	Null	
6	9	Bash/Shell/PowerShell	Bash/Shell/PowerShell	DynamoDB	PostgreSQL	
7	9	C#	C	PostgreSQL	Redis	
8	9	HTML/CSS	HTML/CSS	SQLite	SQLite	
9	9	JavaScript	JavaScript	Null	Null	
10	9	Python	Ruby	Null	Null	
11	9	Ruby	Rust	Null	Null	
..	-	-	

PROGRAMMING LANGUAGE TRENDS

Current Year

Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

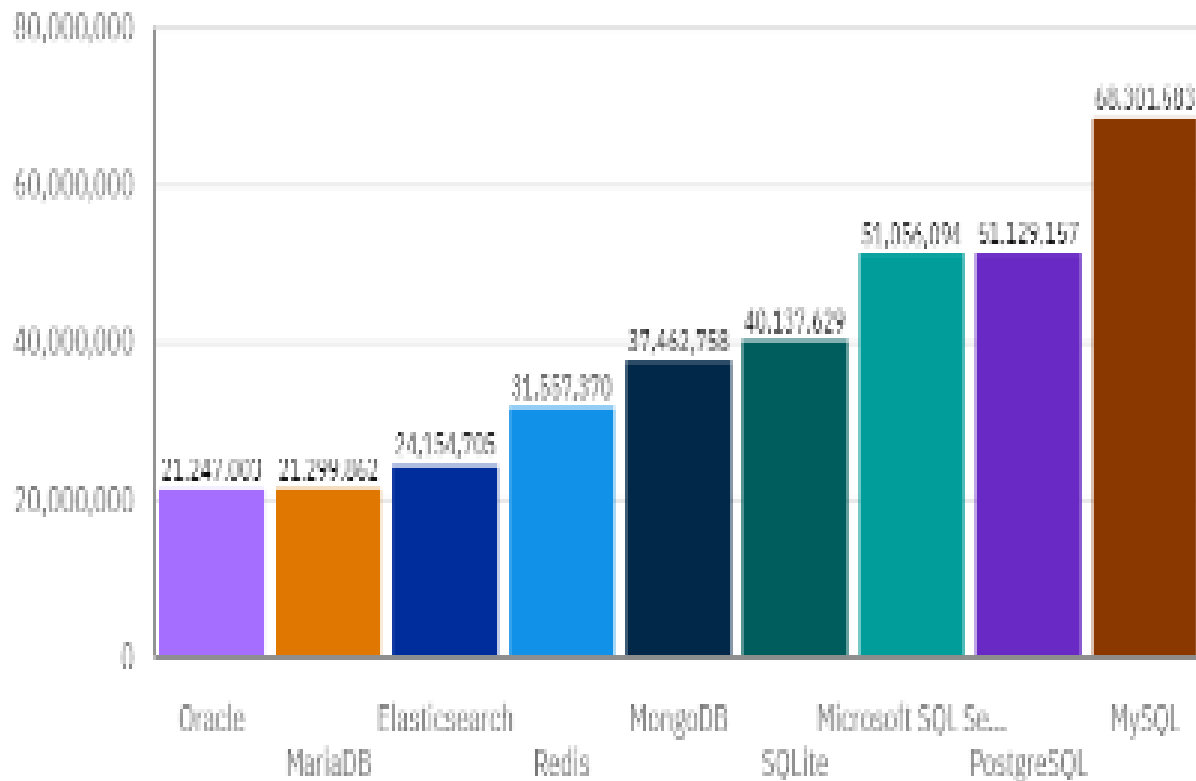
- HTML/CSS, SQL and JavaScript the top 3 languages this year.
- Python and TypeScript becoming popular next year.
- PHP edged out next year.

Implications

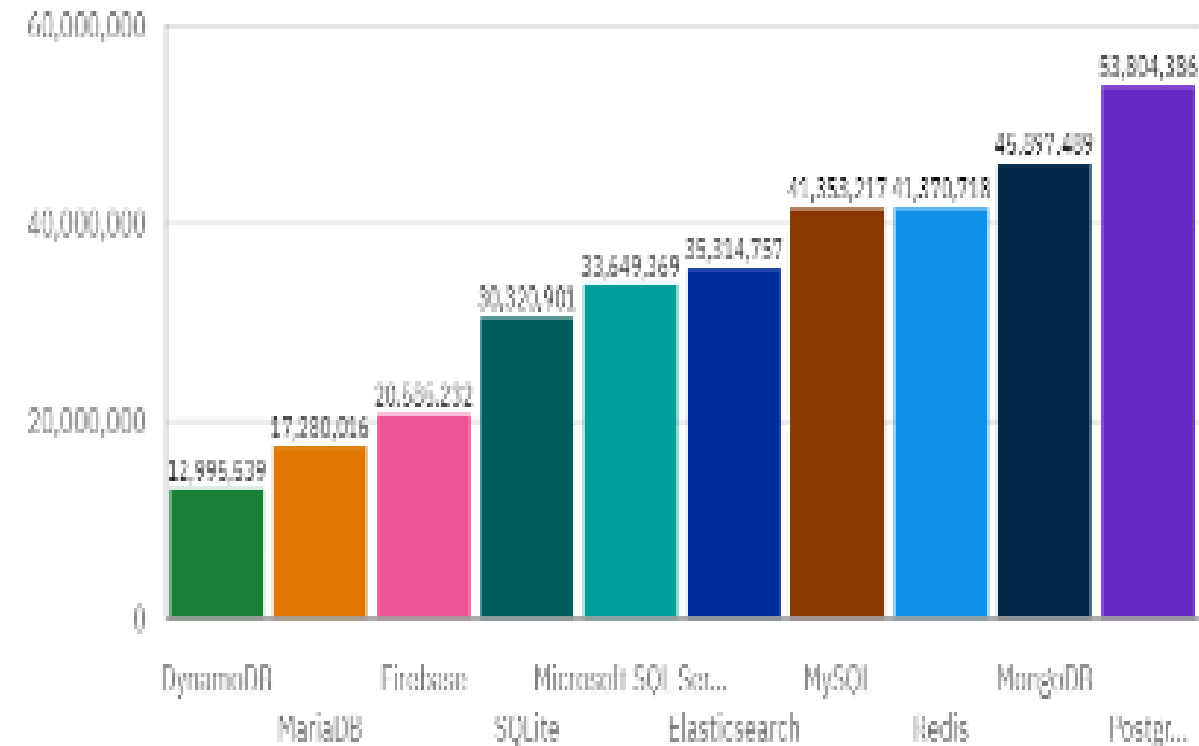
- Web and App development still in high demand.
- There'll still be great need for SQL to query big data.
- With AI and ML coming into limelight, Python is a sure bet.

DATABASE TRENDS

Top 10 Database Worked With



Top 10 Database Desire Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- New database: Elasticsearch.
- MySQL, PostgreSQL and Microsoft SQL Server are the top 3 databases.
- Oracle and MariaDB are the least most used databases.
- PostgreSQL will be the topmost used database.

Implications

- Pre tuned search website, app or ecommerce store.
- Variety of opensource databases to choose from next year.
- No SQL databases will make an impact for storing non relational data.
- Redis supports abstract data types.

DASHBOARD

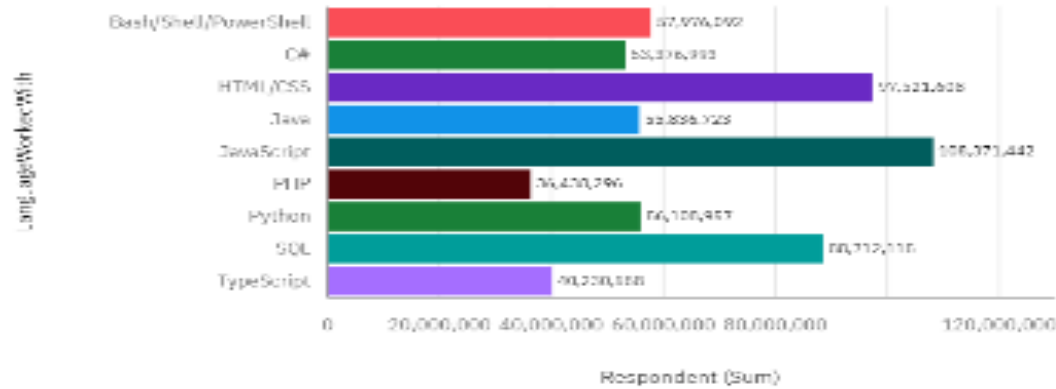


<https://github.com/OjayL/rep/blob/main/Dashboard%20Current%20Technology%20Usage.pdf>

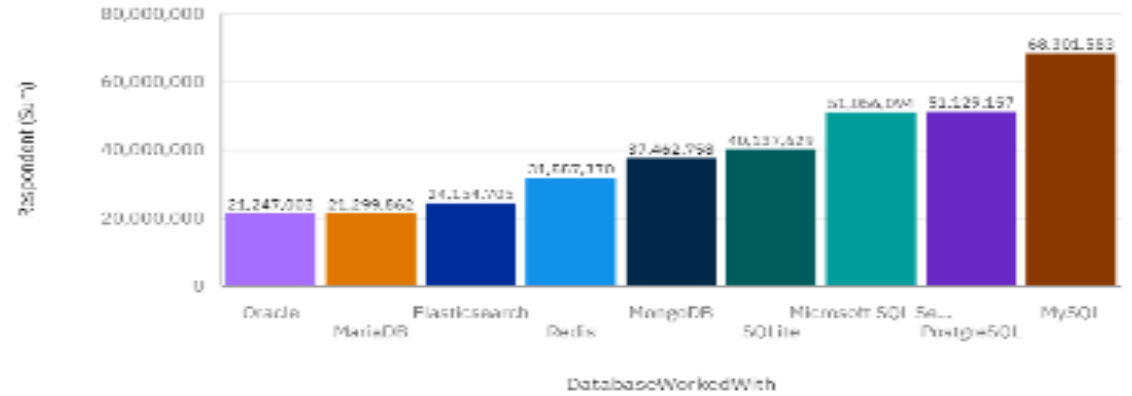
DASHBOARD TAB 1

Current Technology Usage

Top 10 Languages Worked With



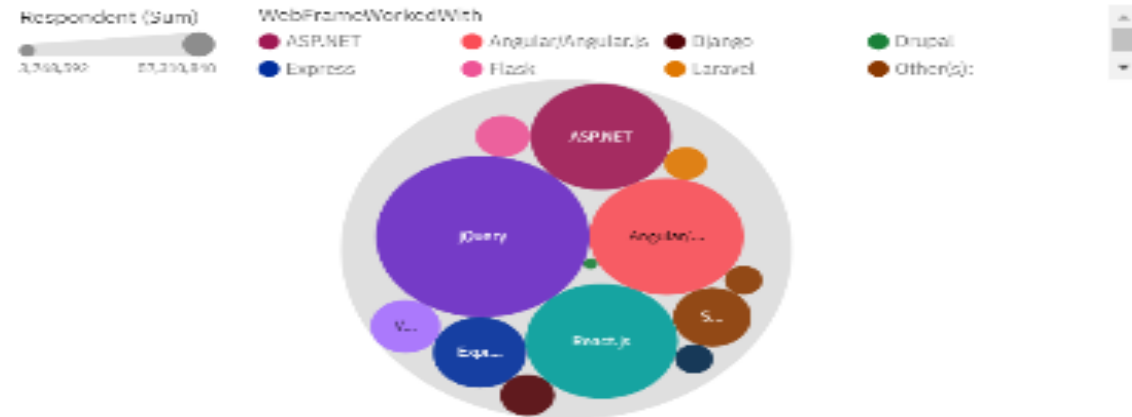
Top 10 Database Worked With



Platform Worked With



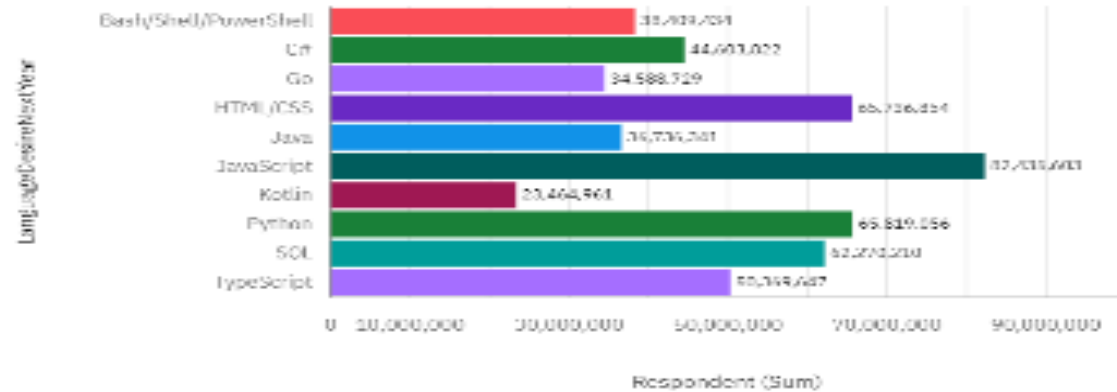
Web Frame Worked With



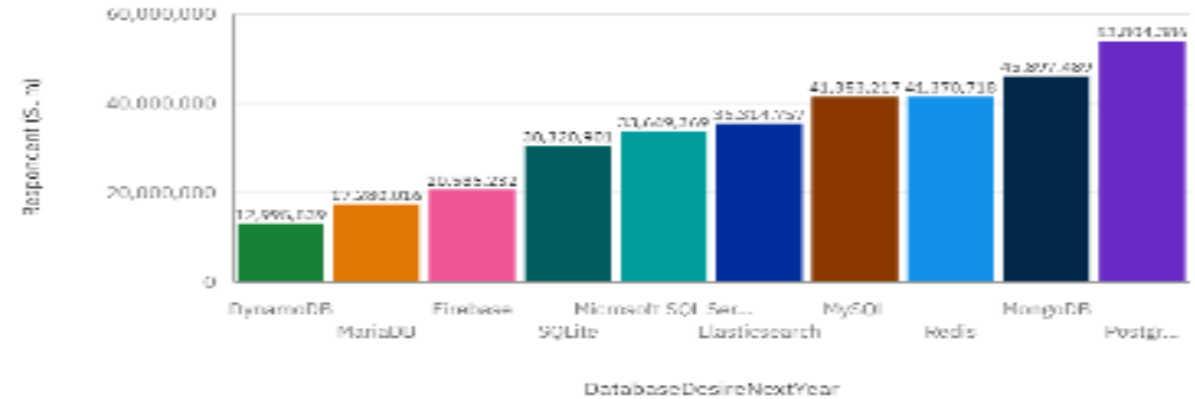
DASHBOARD TAB 2

Future Technology Trend

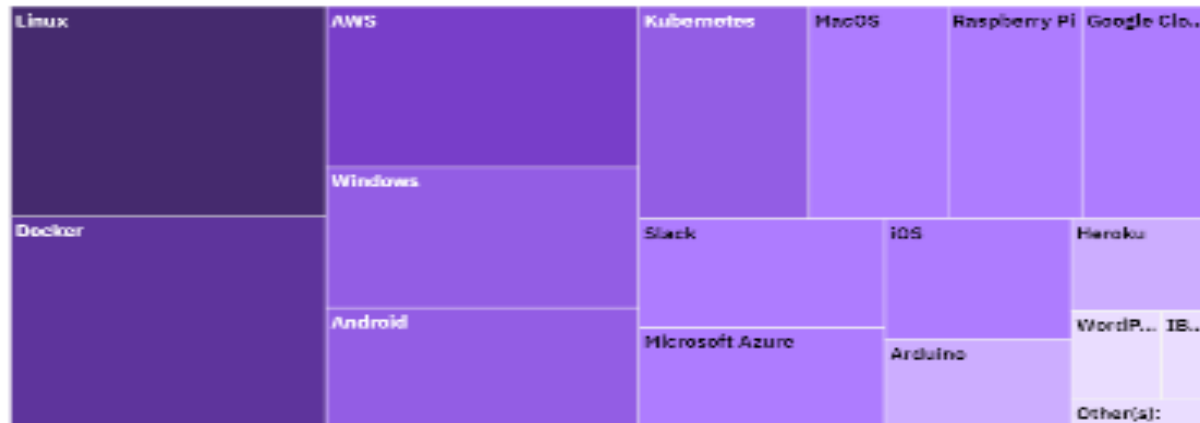
Top 10 Language Desire Next Year



Top 10 Database Desire Next Year



Platform Desire Next Year



Top 10 Web Frame Desire Next Year

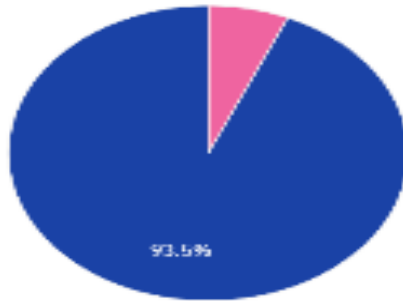


DASHBOARD TAB 3

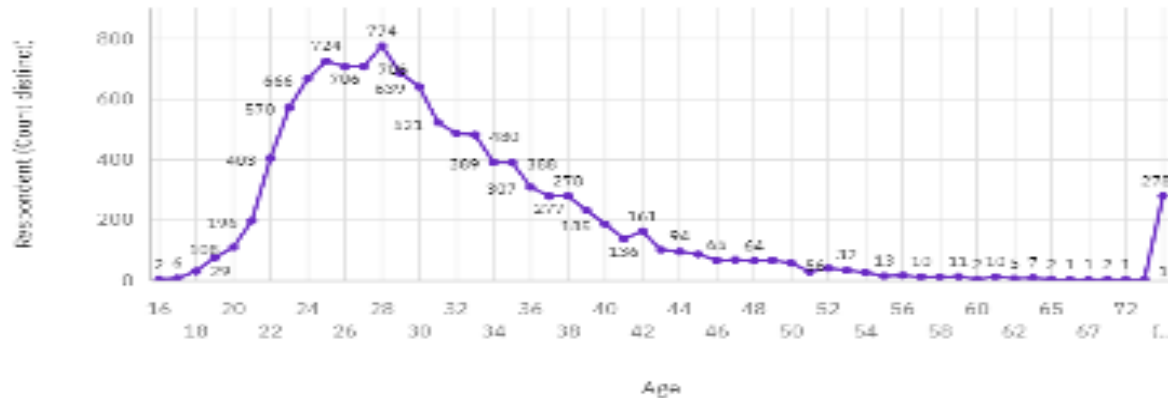
Demographics

Respondent by Gender

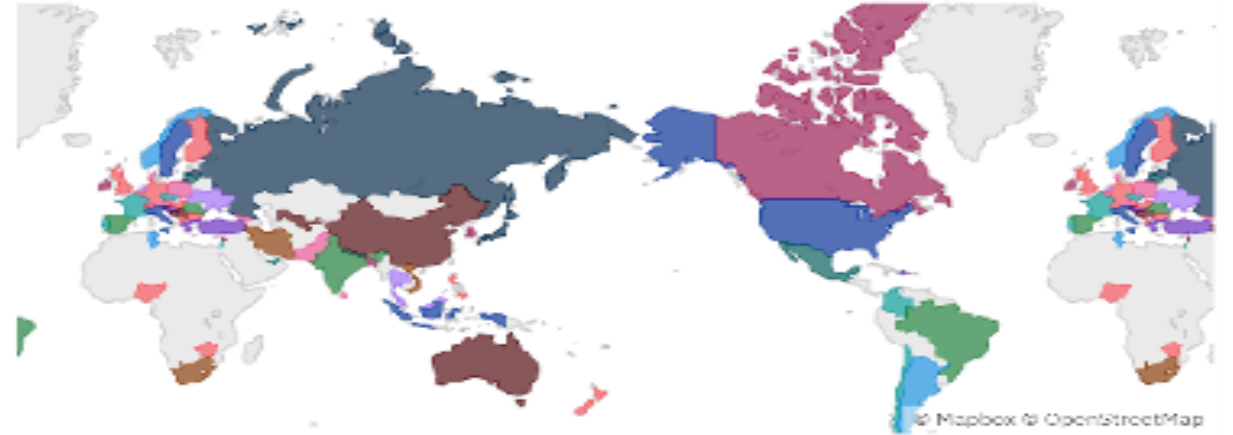
Gender
● Woman ● Man



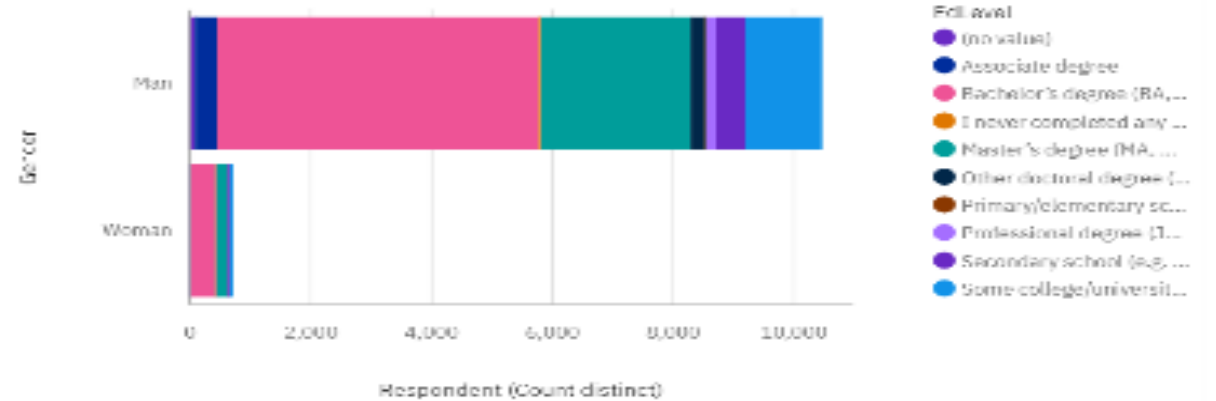
Respondent by Age



Respondent Locations



Respondent by Gender colored by EdLevel



DISCUSSION

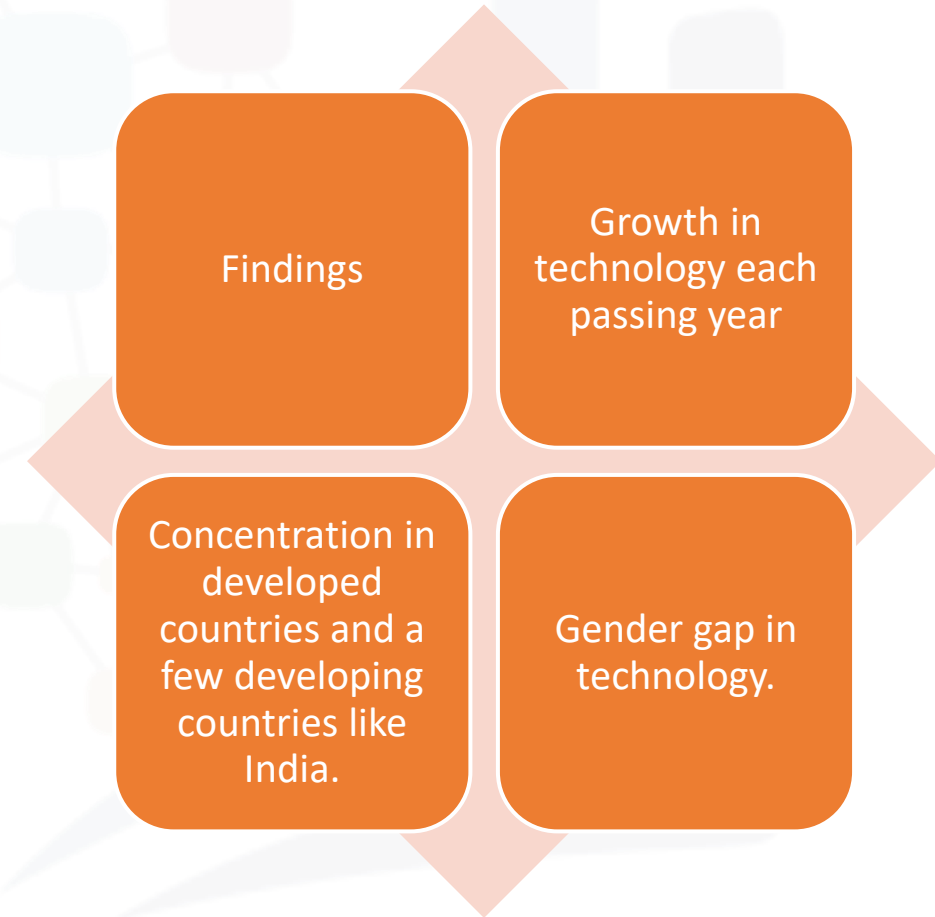


- Technology trends now and future.
- Participation of both male and female in technology, especially the females.
- Training and upskilling technocrats for the betterment of society.
- Bridging the gap in education and exposure for the inexperienced and uneducated.

OVERALL FINDINGS & IMPLICATIONS

Implications

- Increase in jobs for web developers, analysts, software developers to mention a few.
- Create awareness and infrastructure for upskilling in technology in underdeveloped companies.
- Shifting to cloud platforms for better scalability like AWS and Docker.

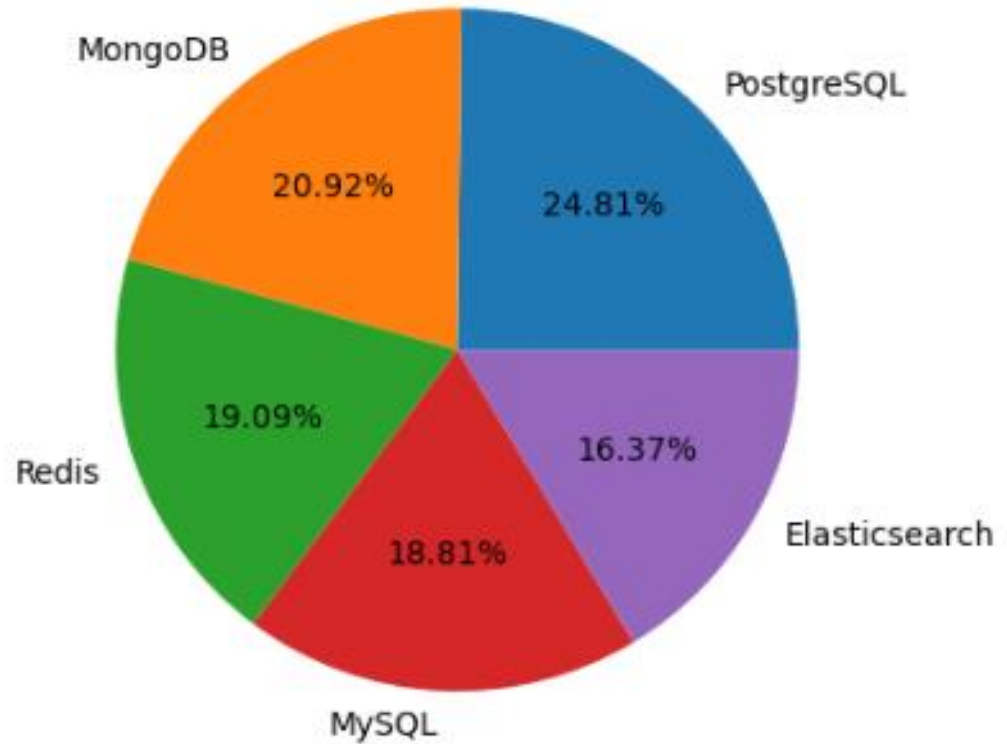


CONCLUSION



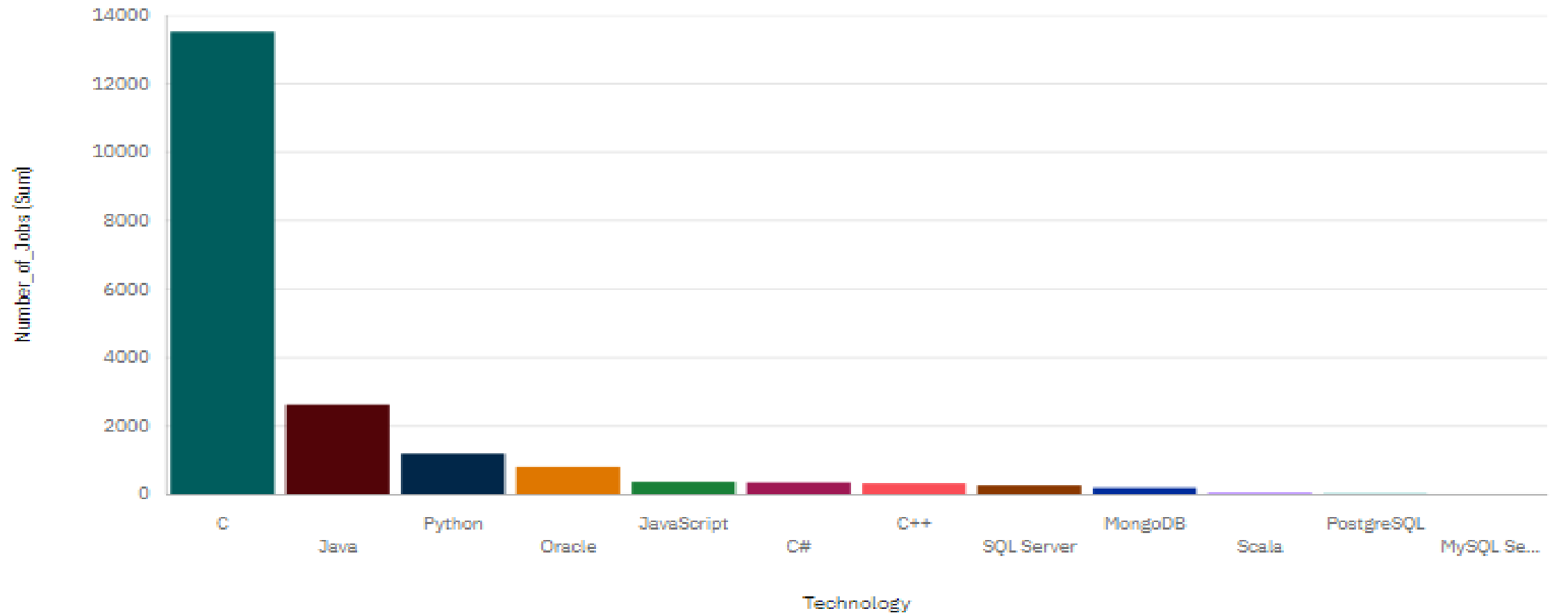
- Technology trends for current year and next year.
- Programming languages, databases and platform overview.
- Demographics overview.
- Use machine learning to create models that'll predict future trends.

APPENDIX



JOB POSTINGS

Number of Jobs by Technology



POPULAR LANGUAGES

