



Identifying current and future IT skill requirements

Cliff Siu

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OUTLINE



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EXECUTIVE SUMMARY



- We are using the subset of the online survey conducted by stack overflow
- Finding different insights from the technology trends in a current and future year.
 - Python is getting more popular
 - More developers are using NoSQL technology
 - USA is the country dominant in the IT industry
- Major of the despondences are from the age 24-36 and men
- Trends in different languages, platforms, and database

INTRODUCTION



- Technologies are rapidly increasing in the recent decade
- Goals of the Presentation is to identify the current and future skills IT skill requirements
- Finding the most demand from various sources from:
 - Job postings
 - Training portals
 - Surveys
- Analyzing and identify insights and trends from the following:
 - Top programming languages in demand
 - Top database skills in demand
 - Popular IDEs
- Audiences: Developers, IT leaders, educators, and IT students

METHODOLOGY



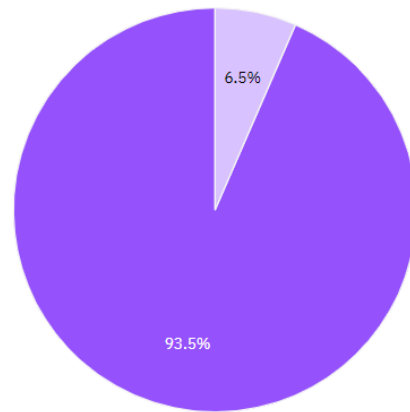
- Data Source: Subset of an online survey from Stack Overflow with ~90,000 responses ([link](#)) in 2019
- Data Wrangling: Removing duplicate values and handling missing values
- Data Analysis: Identifying the distribution, outlier, and correlation in the data set
- Data Visualization
 - Python
 - IBM Cognos
- Share Result

RESULTS

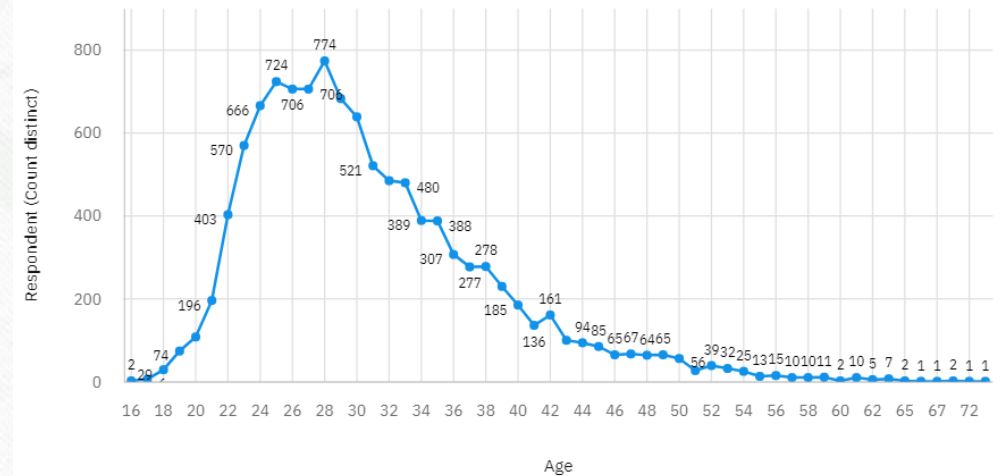
- In the survey, the majority (>90%) of the respondents are Men in the Tech industry
- Most of the respondent has an age between 22-34

Respondent Classified by Gender

Gender
● Woman ● Man

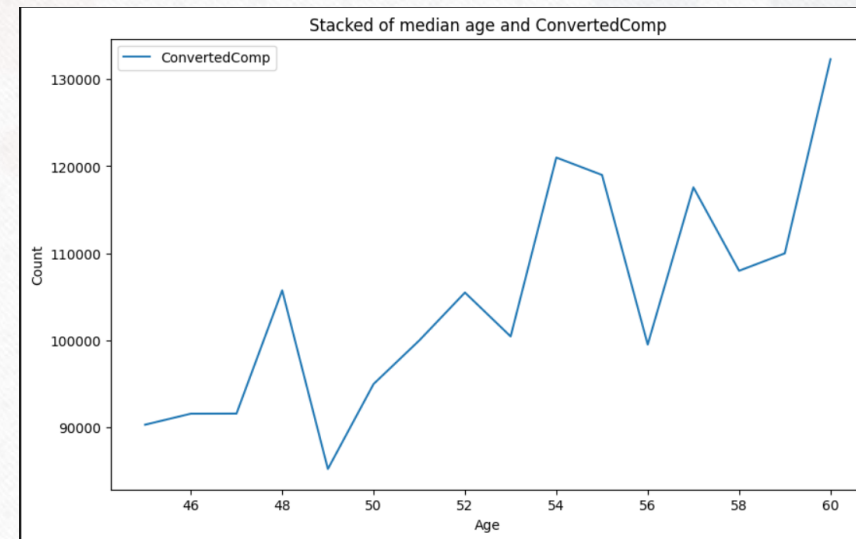
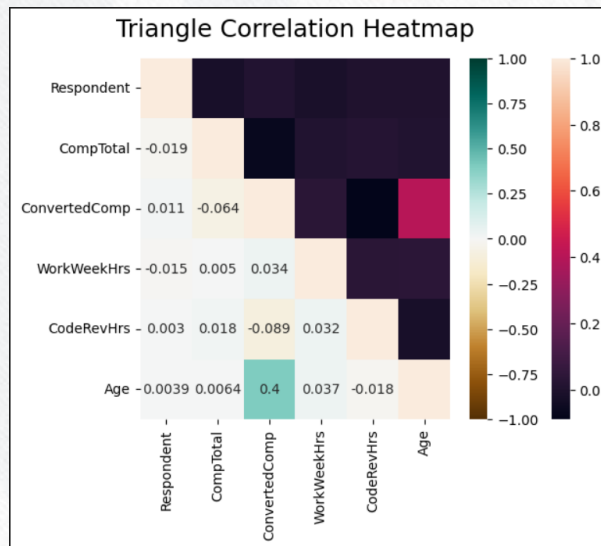


Respondent Count by Age



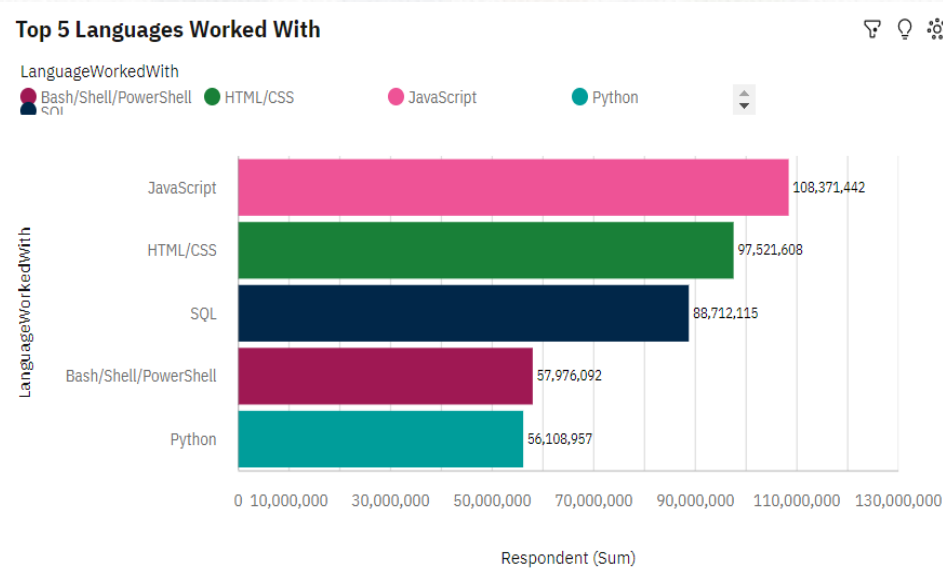
RESULTS

- There is no correlation between any two features. However, there is some positive correlation between age and Convertedcomp (Annual salary in USD)
- As the age increase, the annual salary will also increase.

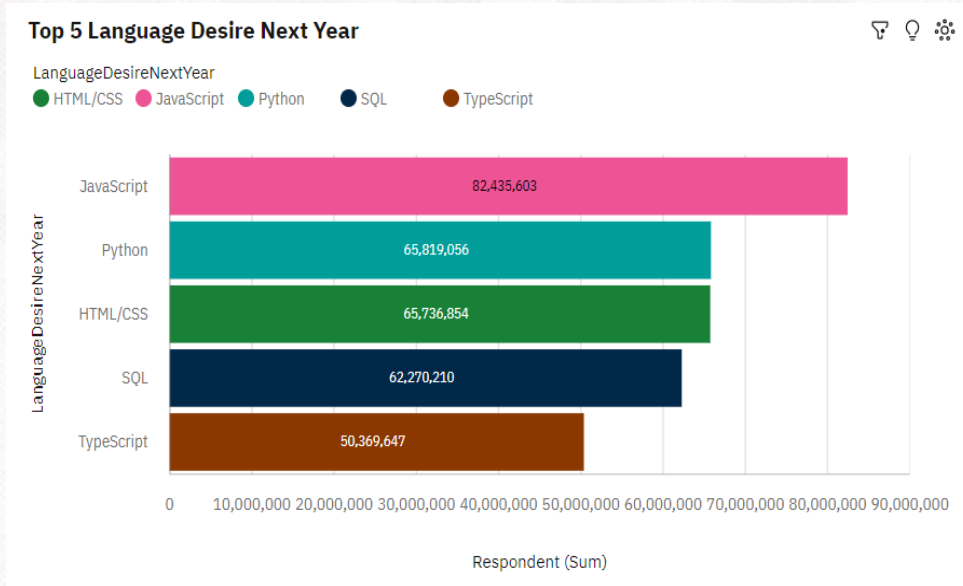


PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- JavaScript is the top 1 in both current and future trends
- Python and TypeScript will become more popular in the future
- PowerShell/ Bash becomes less popular

Implications

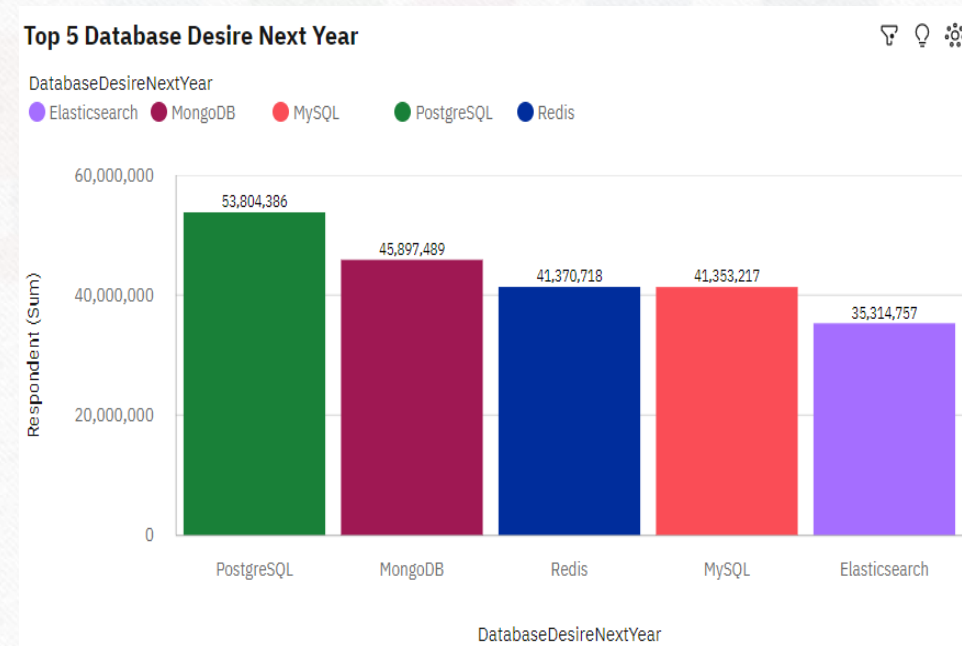
- JavaScript is still in high demand; however, python and typescript may take over in the future
- SQL remains the same trends for big data querying and storage
- Python is becoming popular with developers due to its AI, ML, and big data flexibility.

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL & Microsoft SQL Server are getting less popular
- MongoDB and Redis become more popular for NoSQL database
- The popularity of PostgreSQL remains the same in both current and future

Implications

- There is an increased preference for open-source database
- NoSQL database is getting more popular in the future due to the amount increase in non-relational and unstructured data
- SQL is skill required in Big Data field

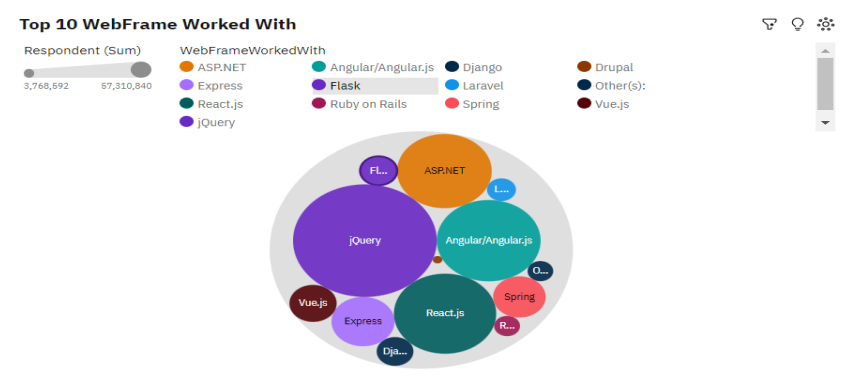
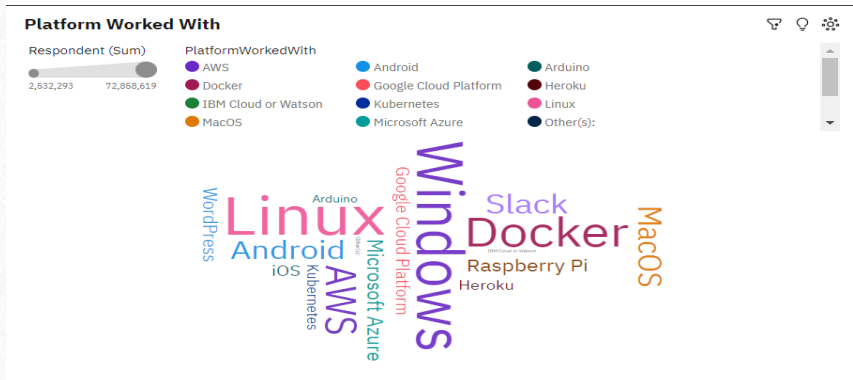
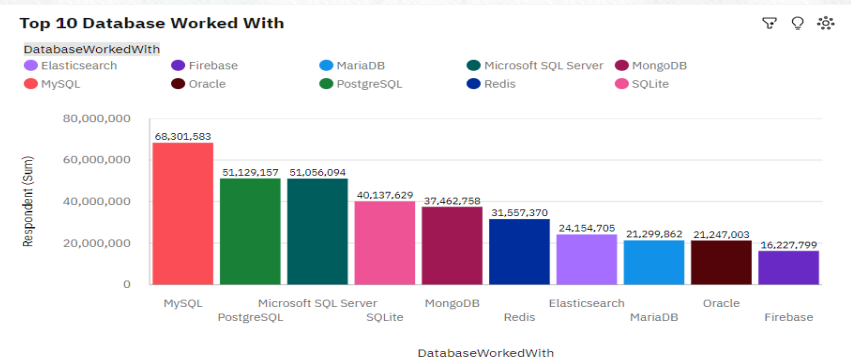
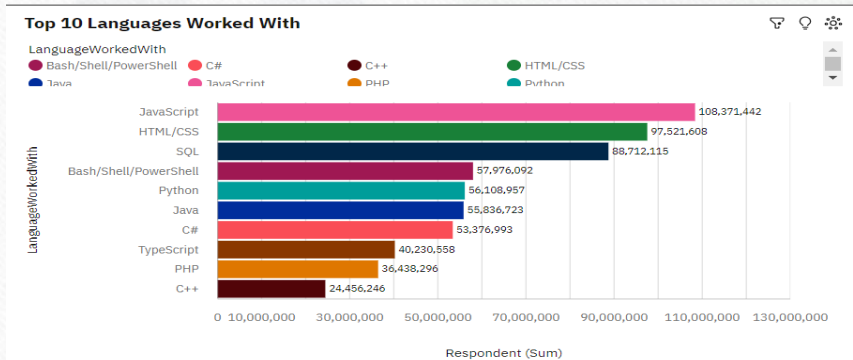
DASHBOARD



The following link contains current and future technology trends, and Demographics based on the online survey from Stack Overflow.

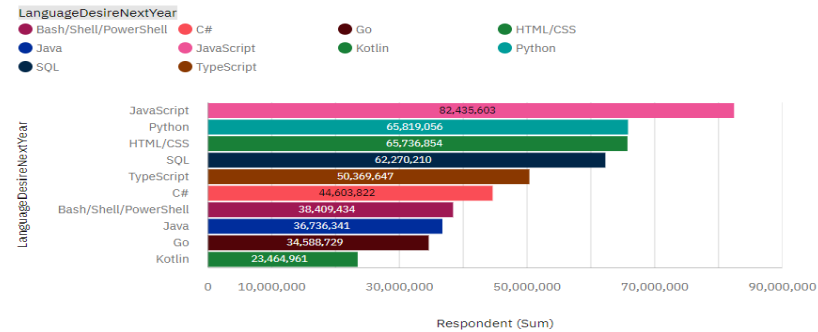
<https://github.com/Cliffsiu/IBM-Data-Analyst-Capstone-Project/blob/main/w5%20project.pdf>

DASHBOARD TAB 1

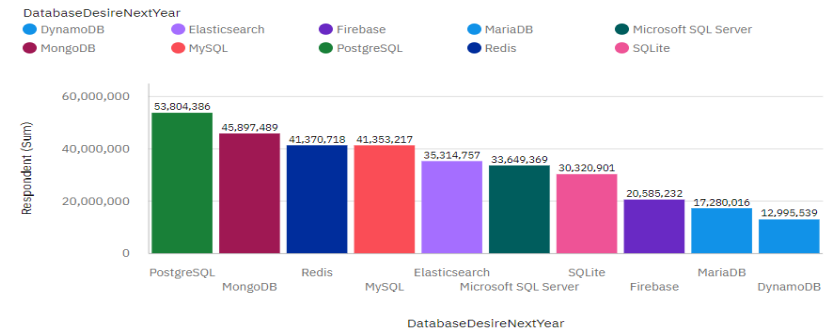


DASHBOARD TAB 2

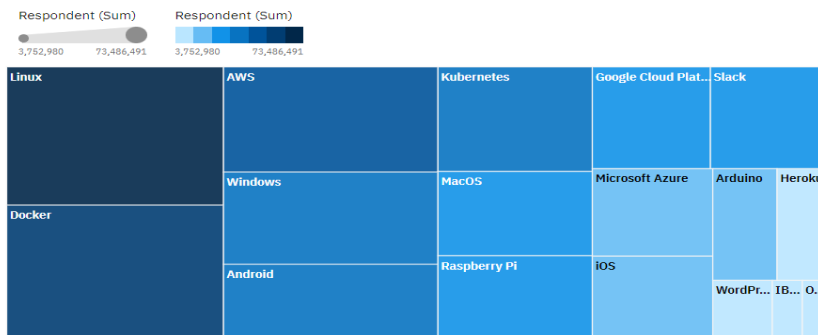
Top 10 Language Desire Next Year



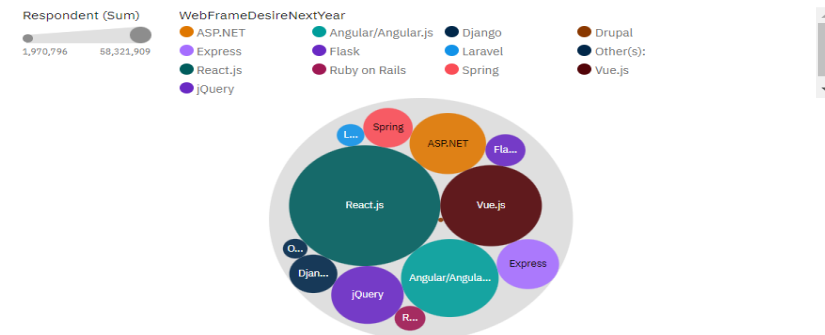
Top 10 Database Desire Next Year



Platform Desire Next Year



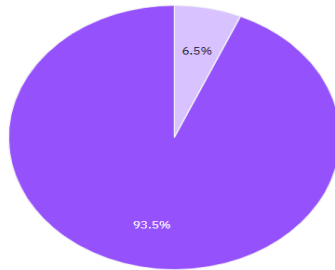
Top 10 Web Frame Desire Next Year



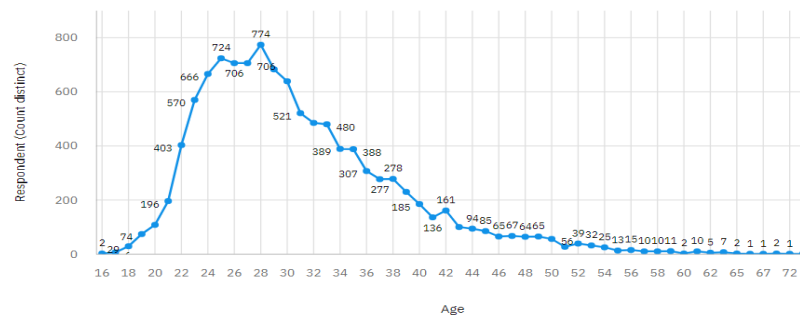
DASHBOARD TAB 3

Respondent Classified by Gender

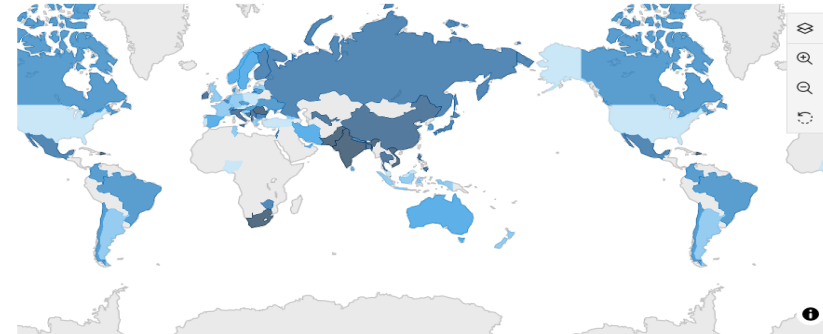
Gender
Woman Man



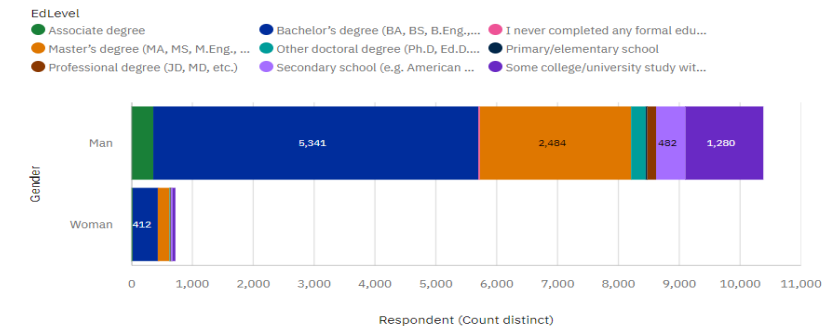
Respondent Count by Age



Respondent Count for Countries



Respondent Count by Gender, classified by Formal Education Level



DISCUSSION



- The technology trend in the current day and in the future
- The impact of gender, age, education level, and living country.

OVERALL FINDINGS & IMPLICATIONS

Findings

- Technology always changing every year.
- USA is the country dominant in the IT industry
- IT industry is more toward to the men and young

Implications

- Developers need to be adept in new environments and technology all the time
- More countries should be exposed to new technology
- There is a huge gap in gender and age, employers should not be judged by these features

CONCLUSION



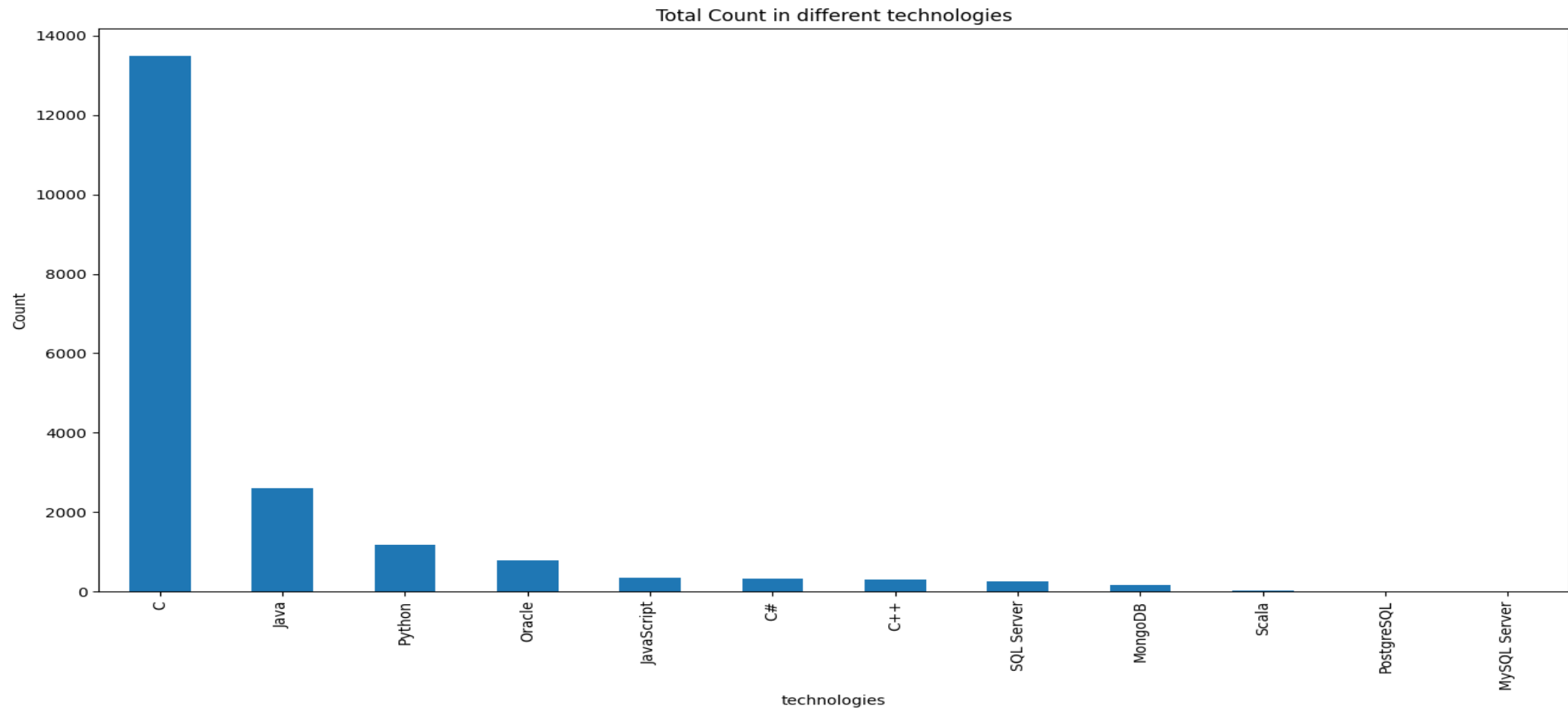
- A subset collected data from Stack Overflow online survey in 2019
- Finding different insights from the technology trends in a current and future year.
- Insights from demographic trends
- Different in gender and age
- Trends in different languages, platform, and database

APPENDIX

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



APPENDIX A: JOB POSTINGS



APPENDIX B: POPULAR LANGUAGES

