



IBM Data Analyst Capstone Project Presentation

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OUTLINE



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



- This report presents the trends in programming languages and databases.
- This shows a detailed review about • Current Technology Usage • Future Technology Trends and
- Demographics of the Analyzed Data.
- Top Programming languages for the next year includes Go, Python, Shell,HTML/CSS.
- Top Databases preferred for the next year includes PostgreSQL, MongoDB, MySQL

INTRODUCTION



- Based on Stack Overflow Developer 2019 Survey, Analysis of programming languages, databases, platforms and web frameworks are carried out.
- This particular report focuses on programming languages and databases.
 - What are the top 5 programming languages used by the respondents?
 - What are the top 5 programming languages they want to learn next year?
 - What are the top 5 databases used by the respondents?
 - What are the top 5 databases they want to learn next year?

METHODOLOGY



- Data Collection
 - Using API's.
 - Web Scraping.
- Data Wrangling
 - Finding Duplicates and Missing Values.
 - Removing those and Cleaning the data.
 - Normalizing Data.
- Exploratory Data Analysis
 - Distribution, Outliers and Correlation.
- Data Visualization
 - Visualizing distribution of data.
- Dashboard Creation

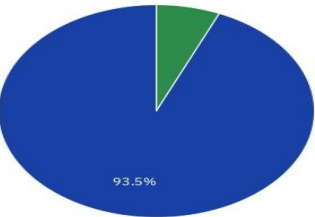
RESULTS

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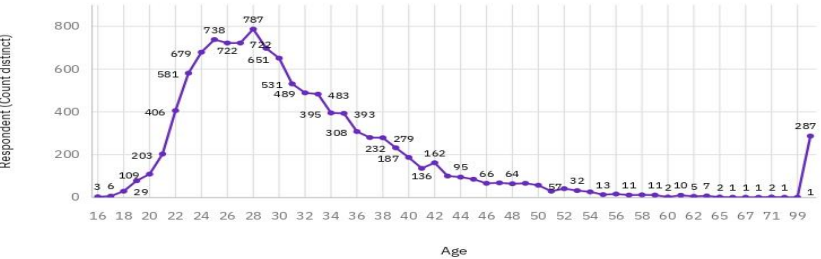
Tab 1

Respondent classified by Gender

Gender
● Woman ● Man

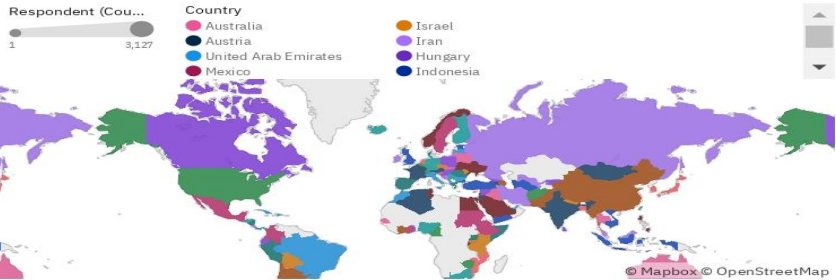


Respondent by Age

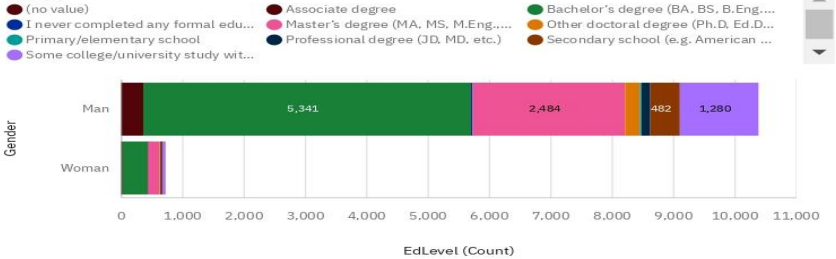


Demographics

Respondent Count for Countries



EdLevel by Gender colored by EdLevel



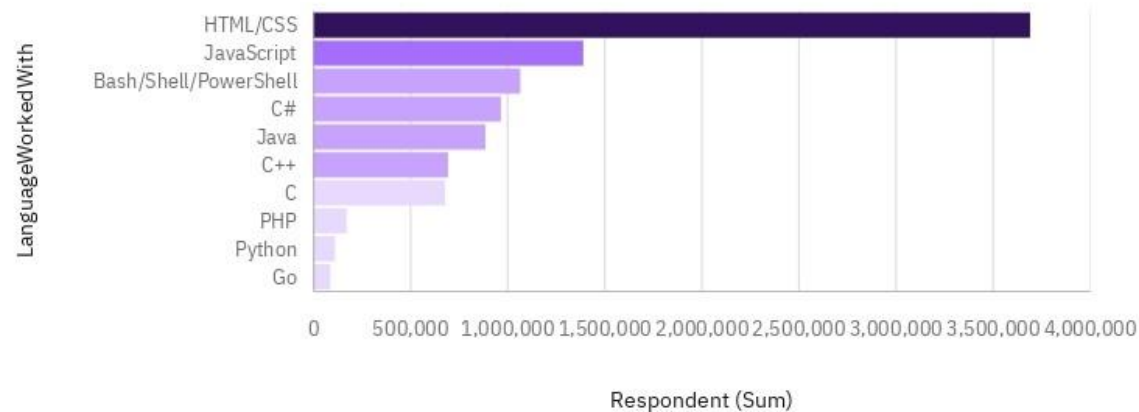
PROGRAMMING LANGUAGE TRENDS

Current Year

Next Year

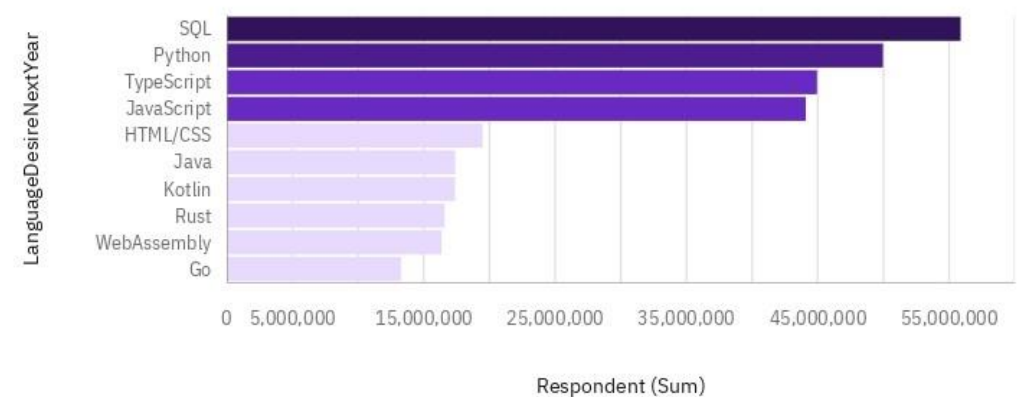
Top 10 LanguageWorkedWith

Respondent (Sum)



Top 10 LanguageDesireNextYear.

Respondent (Sum)



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Current Top 3 – JavaScript, Java, Python
- HTML/CSS, Typescript, C# seems to rise during upcoming years.
- Web framework such as React.js and Angular are being used high.

Implications

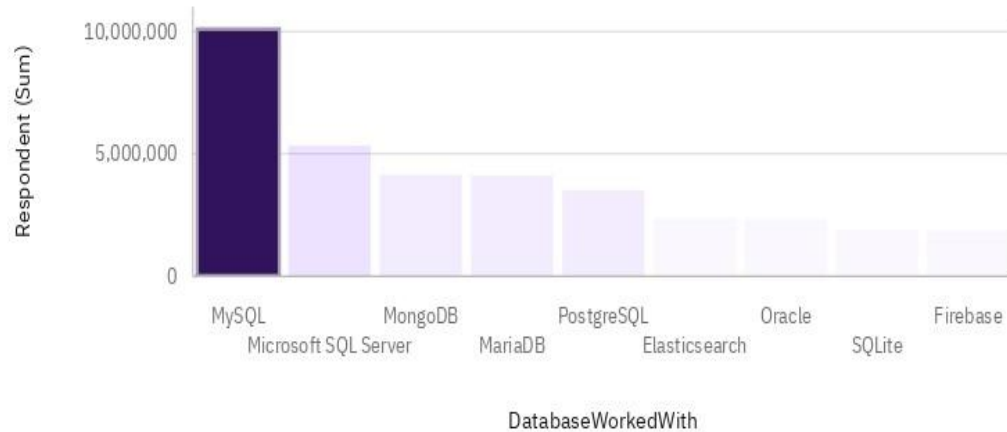
- Python a must known programming language for the future.
- Web Developers needs to acquire new skills such as Typescript and some of the latest web framework to use it as an asset.

DATABASE TRENDS

Current Year

Top 10 DatabaseWorkedWith

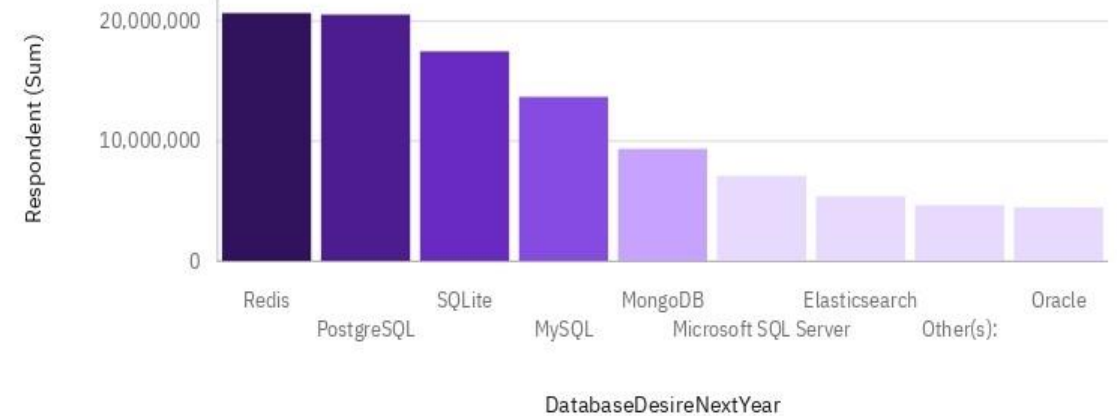
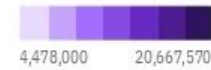
Respondent (Sum)



Next Year

Top 10 DatabaseDesireNextYear

Respondent (Sum)



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- The most common and well-known databases are in the top three rank.
- Databases such as PostgreSQL, and MongoDB has occurred top 2 for the next year.
- MongoDB a document-oriented NoSQL database has occurred top 2 for the upcoming year.

Implications

- Companies may be shifting to PostgreSQL from MySQL for the next year.
- NoSQL databases will have higher impact in coming years.
- Demand for database skills are stable over the upcoming years.

DASHBOARD



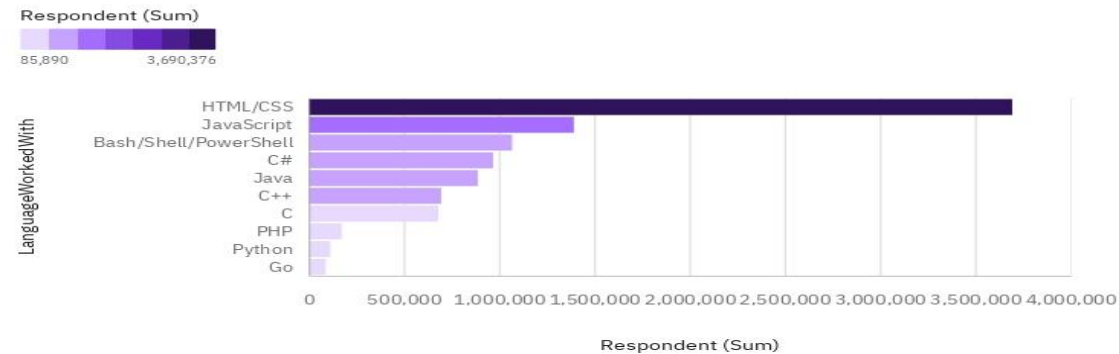
<https://github.com/16Brijesh10/Data-Analyst-Capstone-Project>

DASHBOARD TAB 1

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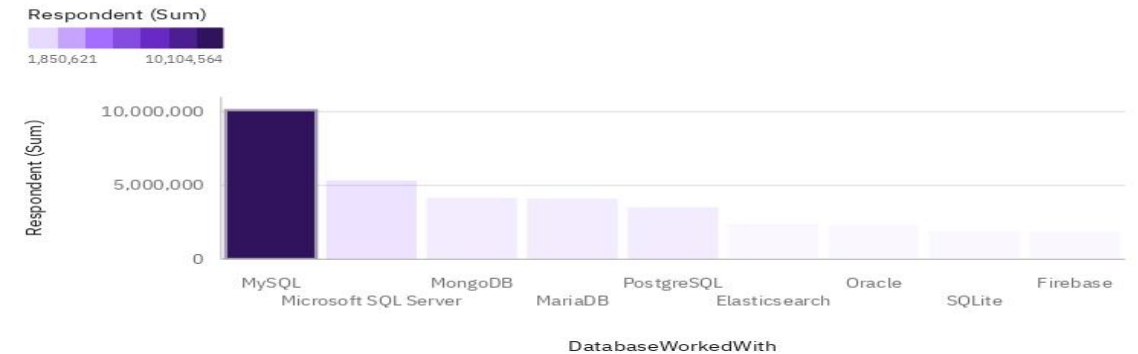
Tab 1

Top 10 LanguageWorkedWith



Current Technology Usage

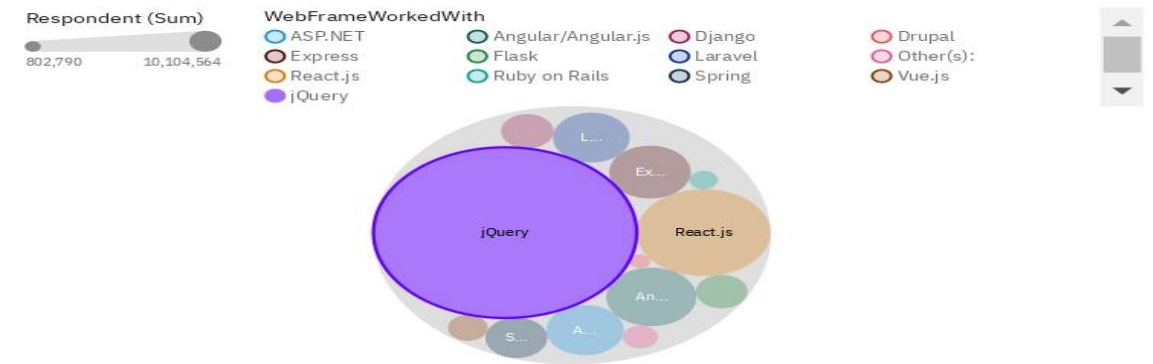
Top 10 DatabaseWorkedWith



PlatformWorkedWith



Top 10 WebFrameWorkedWith

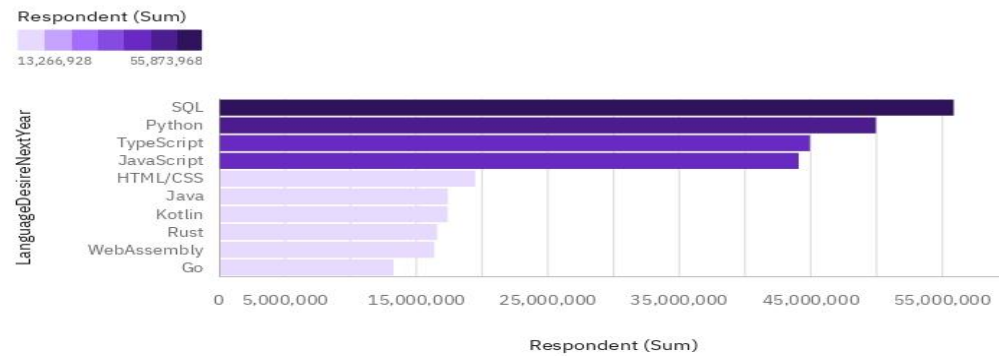


DASHBOARD TAB 2

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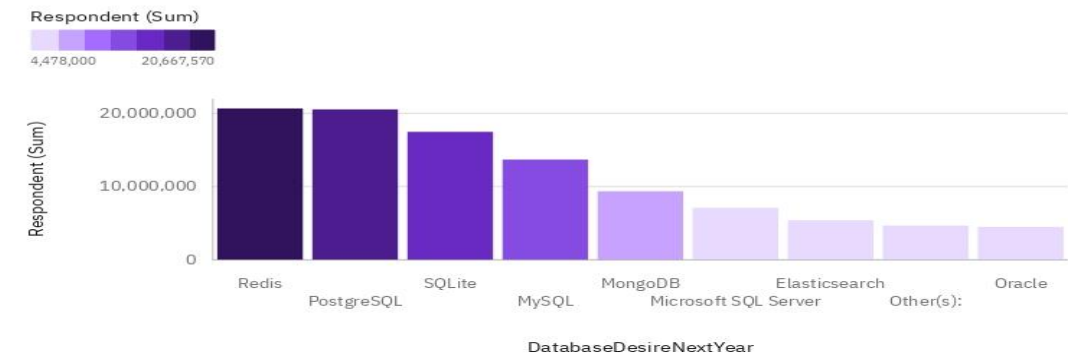
Tab 1

Top 10 LanguageDesireNextYear.

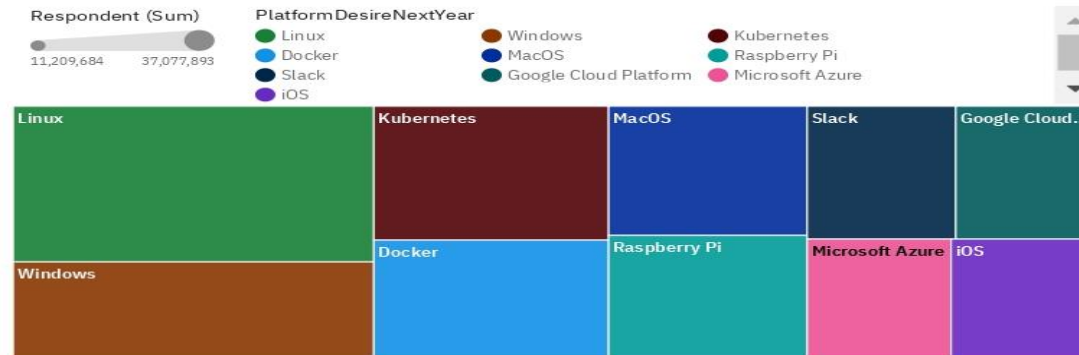


Future Technology Trend

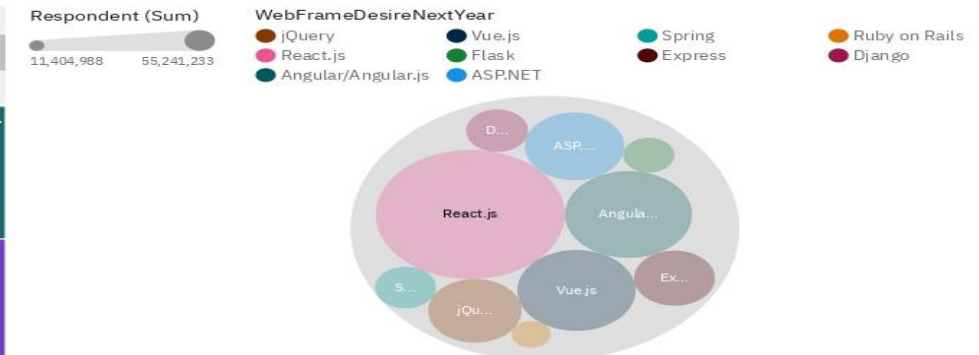
Top 10 DatabaseDesireNextYear



PlatformDesireNextYear.



Top 10 WebFrameDesireNextYear



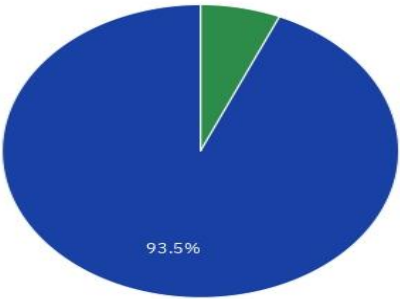
DASHBOARD TAB 3

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Tab 1

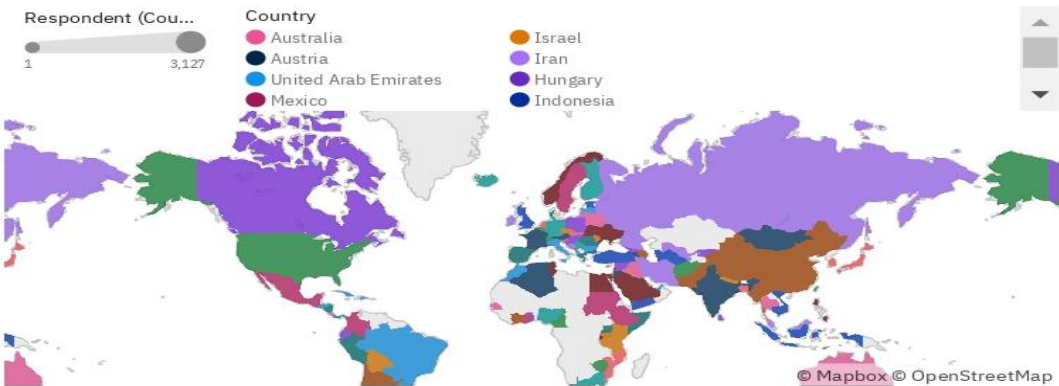
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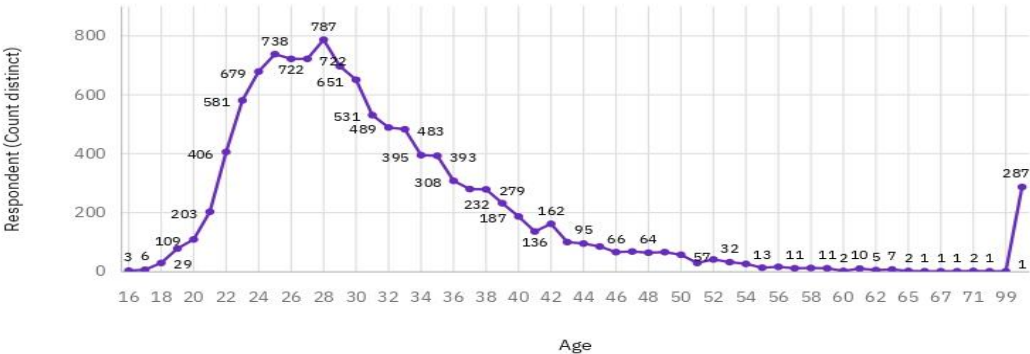


Demographics

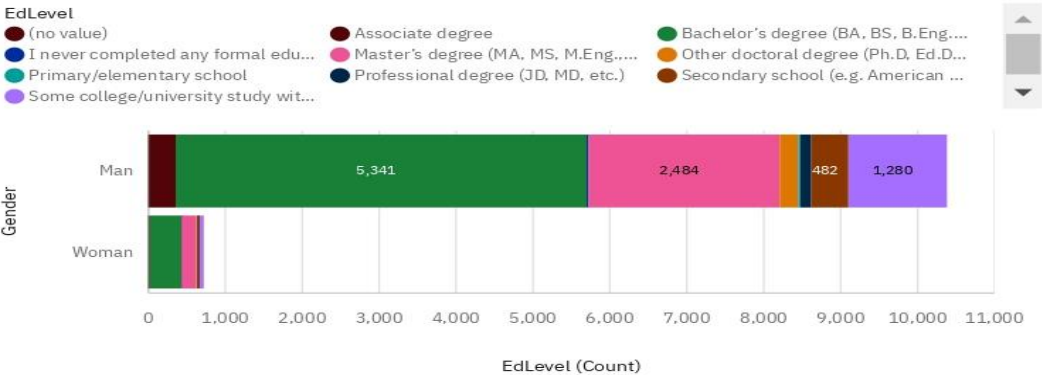
Respondent Count for Countries



Respondent by Age



EdLevel by Gender colored by EdLevel



DISCUSSION



- Will JavaScript and Python be dominant for next 10 years?
- Is it better to learn several languages or to focus on just one?
- Are workers over 40 out of the tech job market?
- Is the Web Development market saturated?

OVERALL FINDINGS & IMPLICATIONS

Findings

- The trends show that Web Development market is strong
- Highly demanded and rapidly changing sectors.
- Most workers aged 22-32.

Implications

- The I.T development market is getting more competitive.
- Employees should adapt to changes.
- Learning different technology (programming language, database and cloud services) can be very advantageous.

CONCLUSION

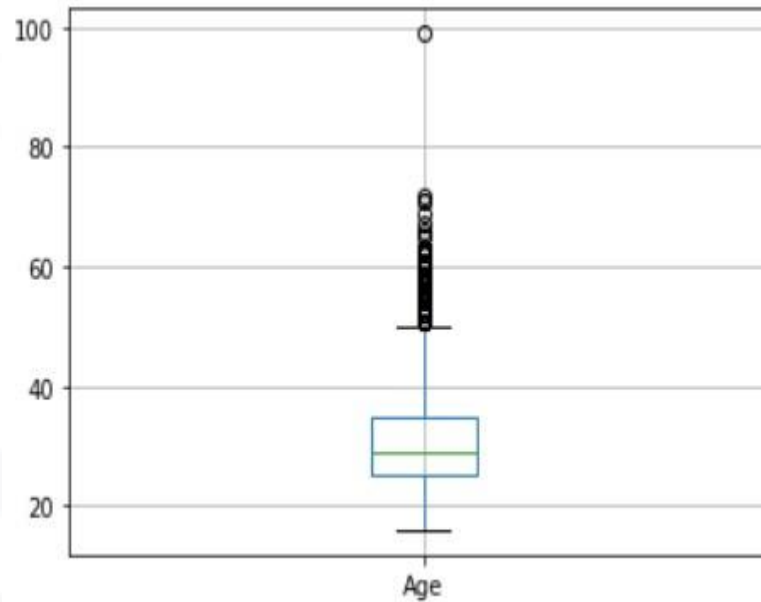


- Respondents are focused on Web Development .
- JavaScript and HTML/CSS are still the most popular languages throughout next year.
- Python, Typescript and Go will continue to grow over upcoming years.
- Demand for working with these technologies increases every time.

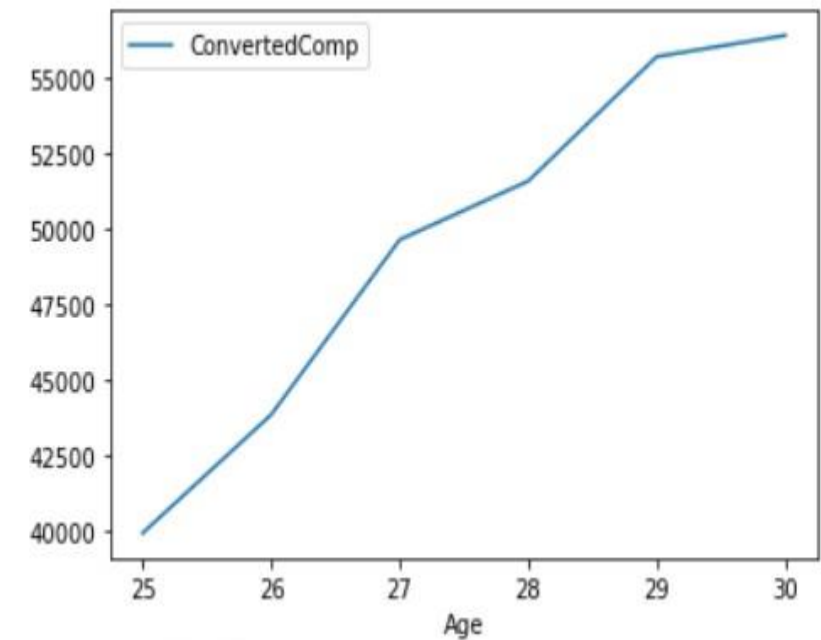
APPENDIX



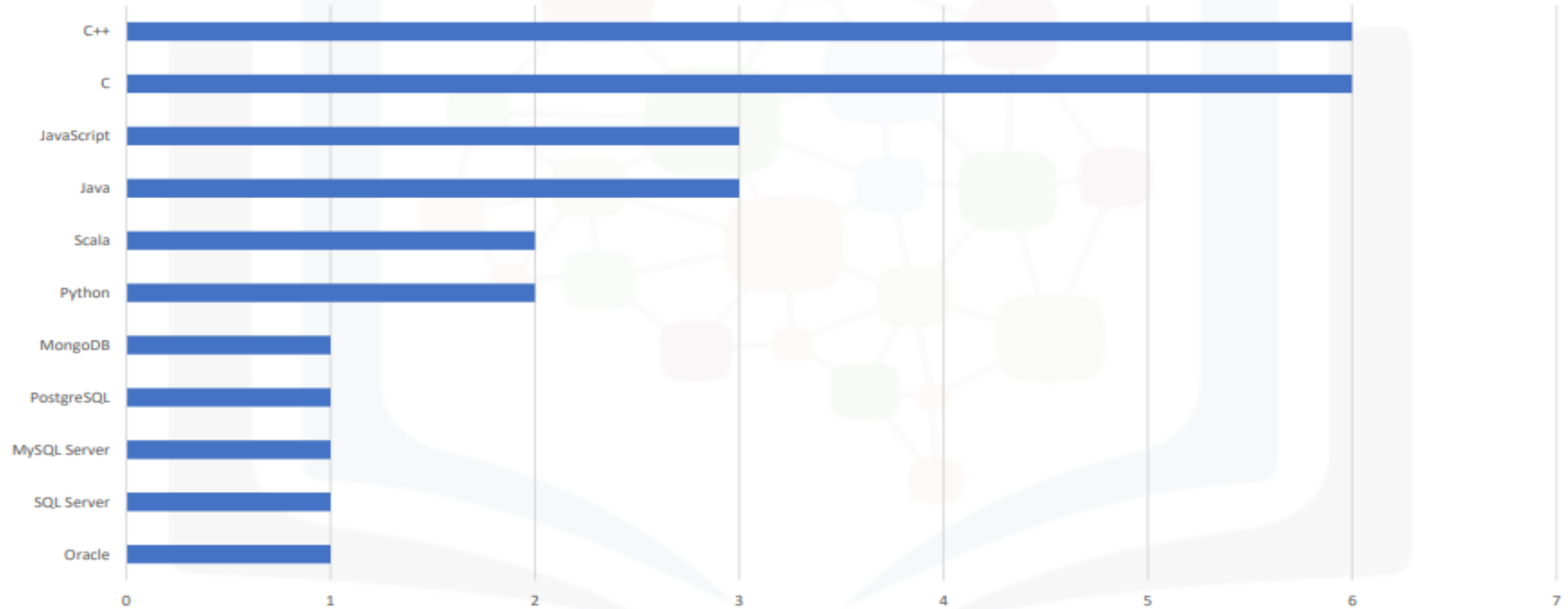
Boxplot chart showing that 50% of respondents are between 25 and 35



Line chart showing a positive correlation between Age.



JOB POSTINGS



POPULAR LANGUAGES

