Stack Overflow Data Survey

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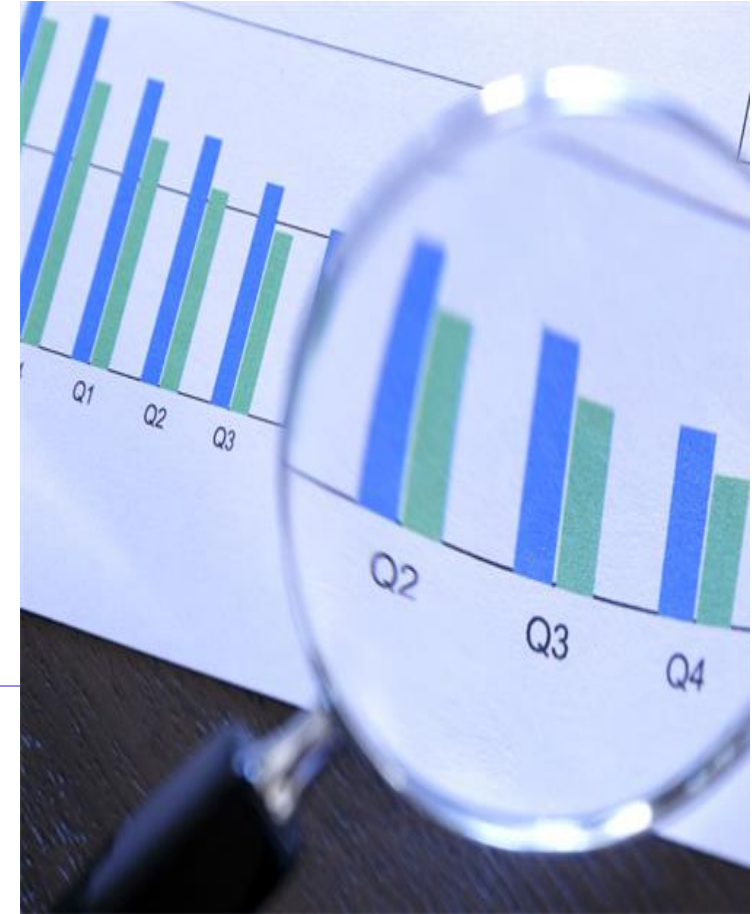
OUTLINE

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

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EXECUTIVE SUMMARY

- Define the purpose Goals of Data Analysis

- Collected relevant and accurate data for analysis

- Performed in-depth analysis of the gathered data.

- Created visual representations to illustrate key insights.

- Presented results supported by meaningful graphs and trends.

- Discussed key findings and their implications.

- Concluded with a summary of insights from the research.

METHODOLOGY

- Collecting survey data and explore the dataset
- Web Scraping
  - APIs
  - Request Library
- Data Wrangling
- Exploratory Data Analysis
  - Analyzing Data Distribution
  - Handling Outliers
  - Correlation
- Data Visualization ,Dashboards
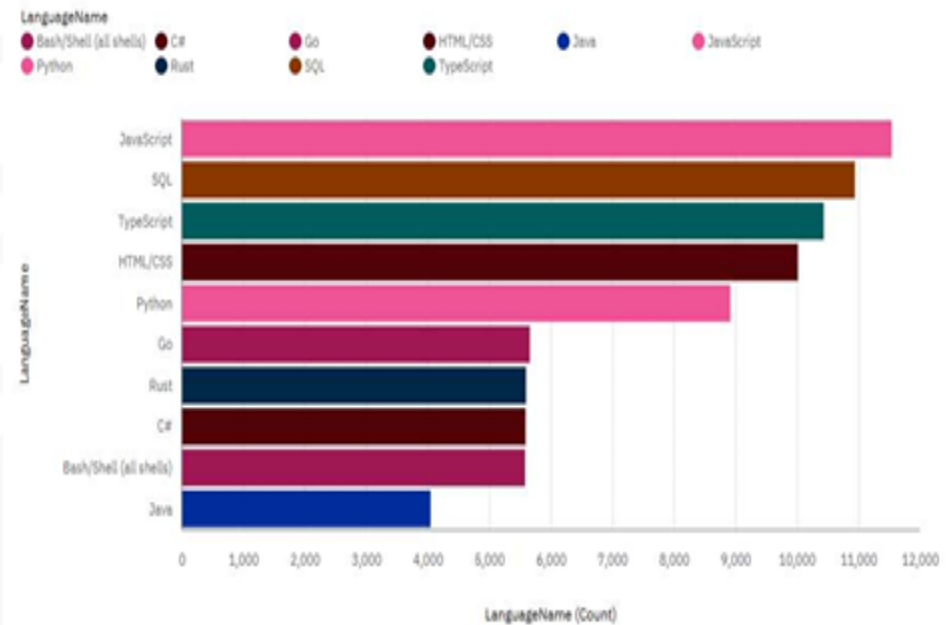 - Highlight distribution of data, relationship and the composition of data

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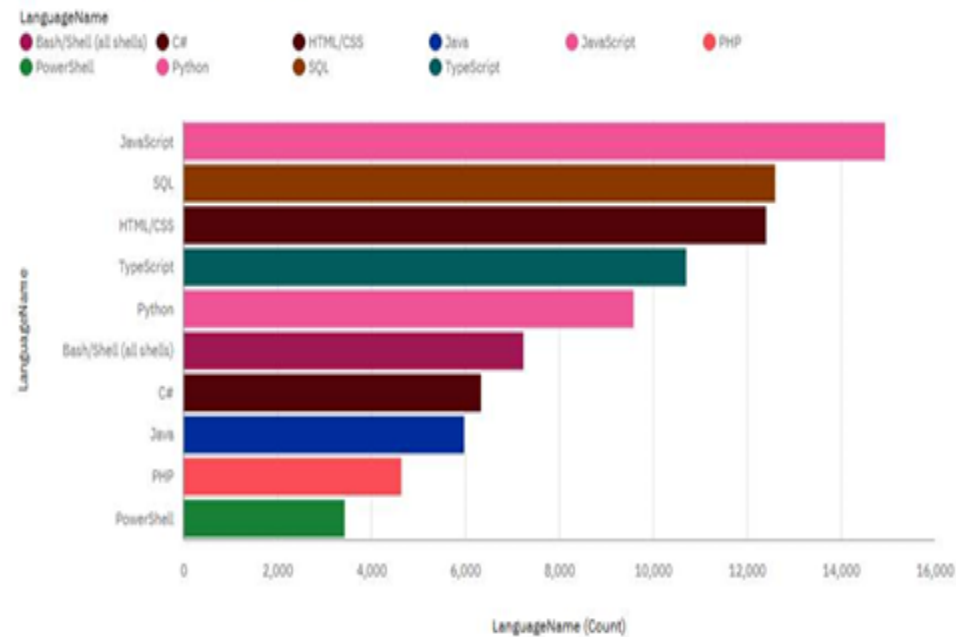
PROGRAMMING LANGUAGE TRENDS

PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Bash/Shell is the most worked with and most desired language.

- C# and HTML/CSS are consistently popular across current and future preferences.

- Languages like Dart and Elixir are currently used but not among future preferences.
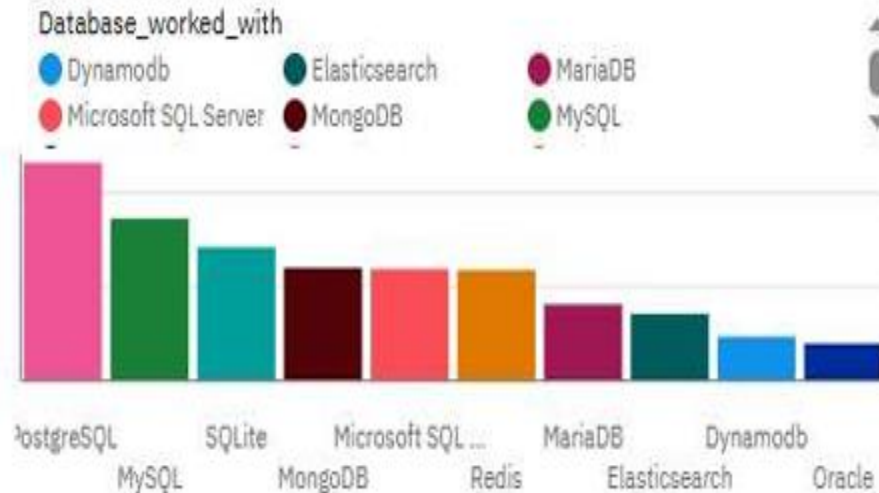
Implications

- Bash/Shell is crucial for automation and DevOps; Its relevance is growing.

- High demand for C# and HTML/CSS signals opportunities in web and application development.

- Decline in Dart and Elixir interest shows a shift toward more mainstream and career-aligned language.
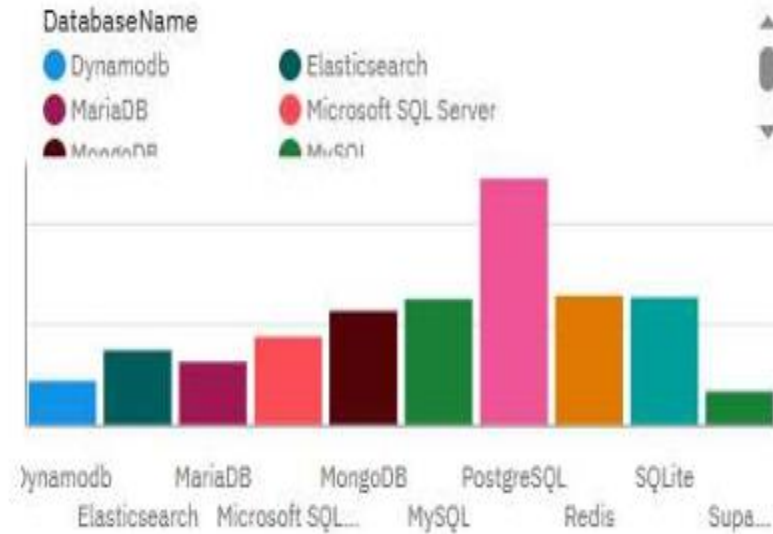
DATABASE TRENDS

DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Microsoft SQL Server is the most used database currently, but PostgreSQL is the most desired for the future.

- PostgreSQL, Elasticsearch, and MongoDB show strong presence in both current usage and future interest.

- Cassandra shows future interest despite not being in the current top 10, while Cosmos DB is declining in future preference.

Implications

• Developers may be transitioning from traditional enterprise databases like SQL Server to open-source, scalable options such as PostgreSQL.

• Consistent technologies like Elasticsearch and MongoDB suggest stable industry demand and are valuable for skill development.

• Increasing interest in Cassandra indicates growing demand for distributed database systems, while decreasing interest in Cosmos DB may signal reduced relevance or limited adoption.
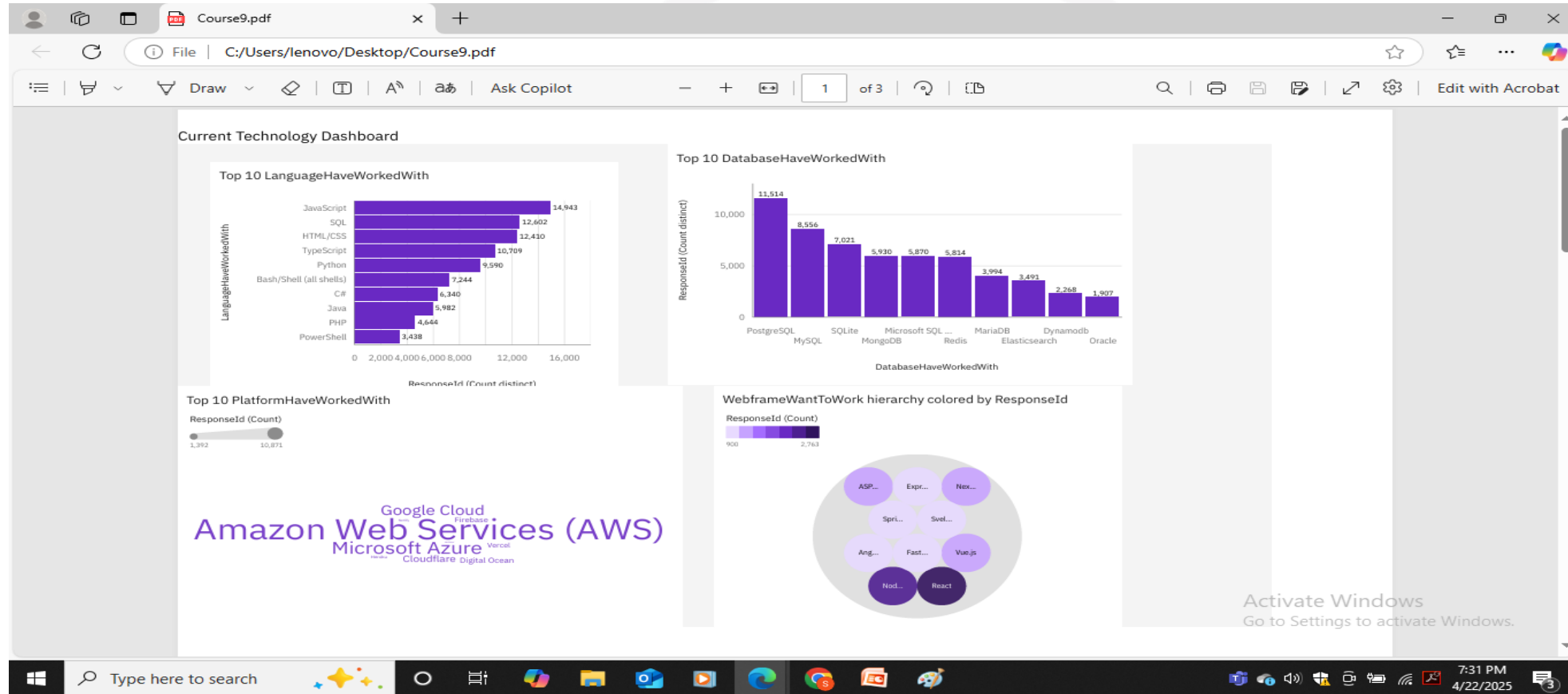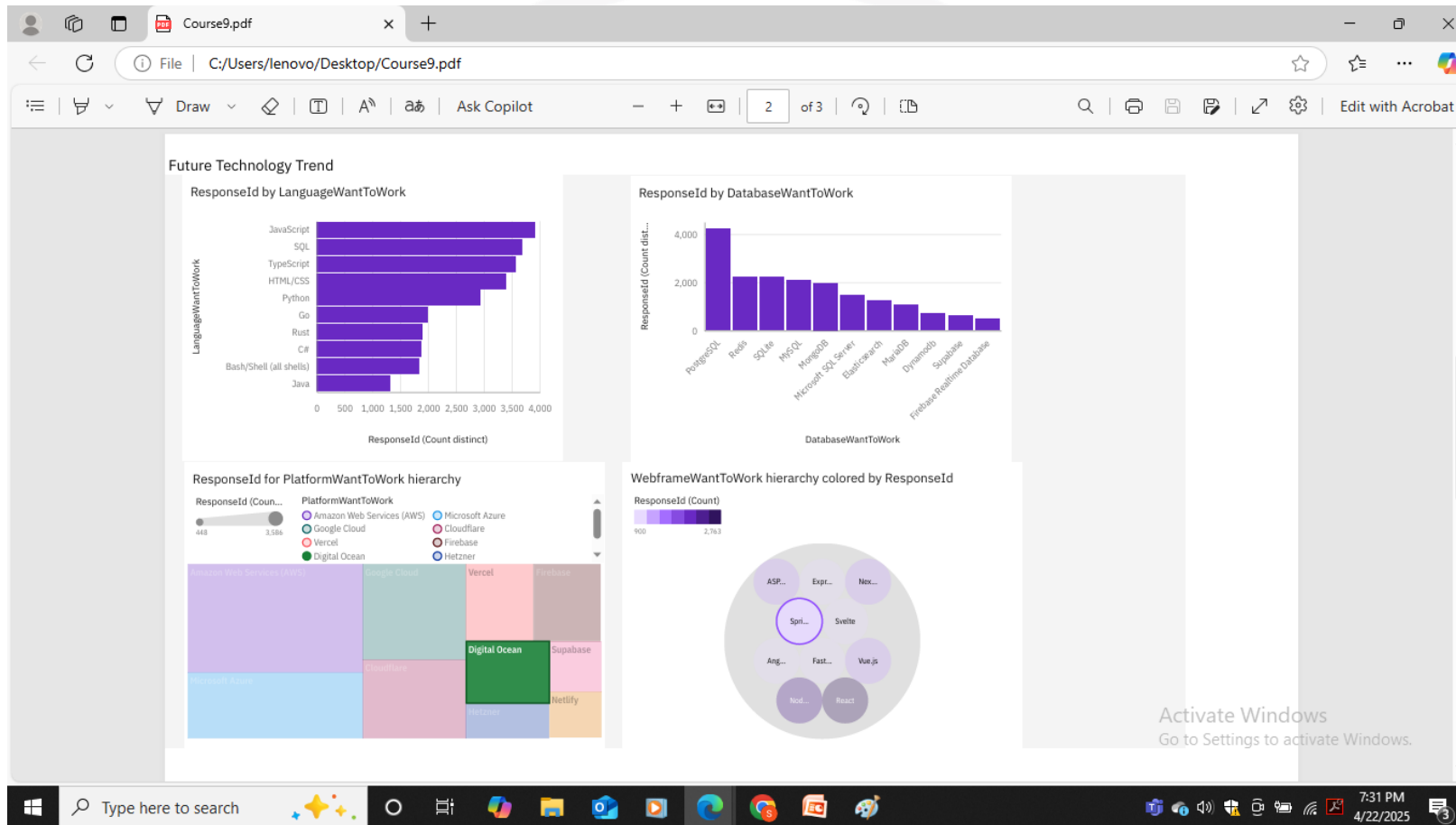
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DASHBOARD

https://github.com/sandhya-pachipulusu/IBM-Data-Analyst-Capstone-Project/blob/main/Course9.pdf
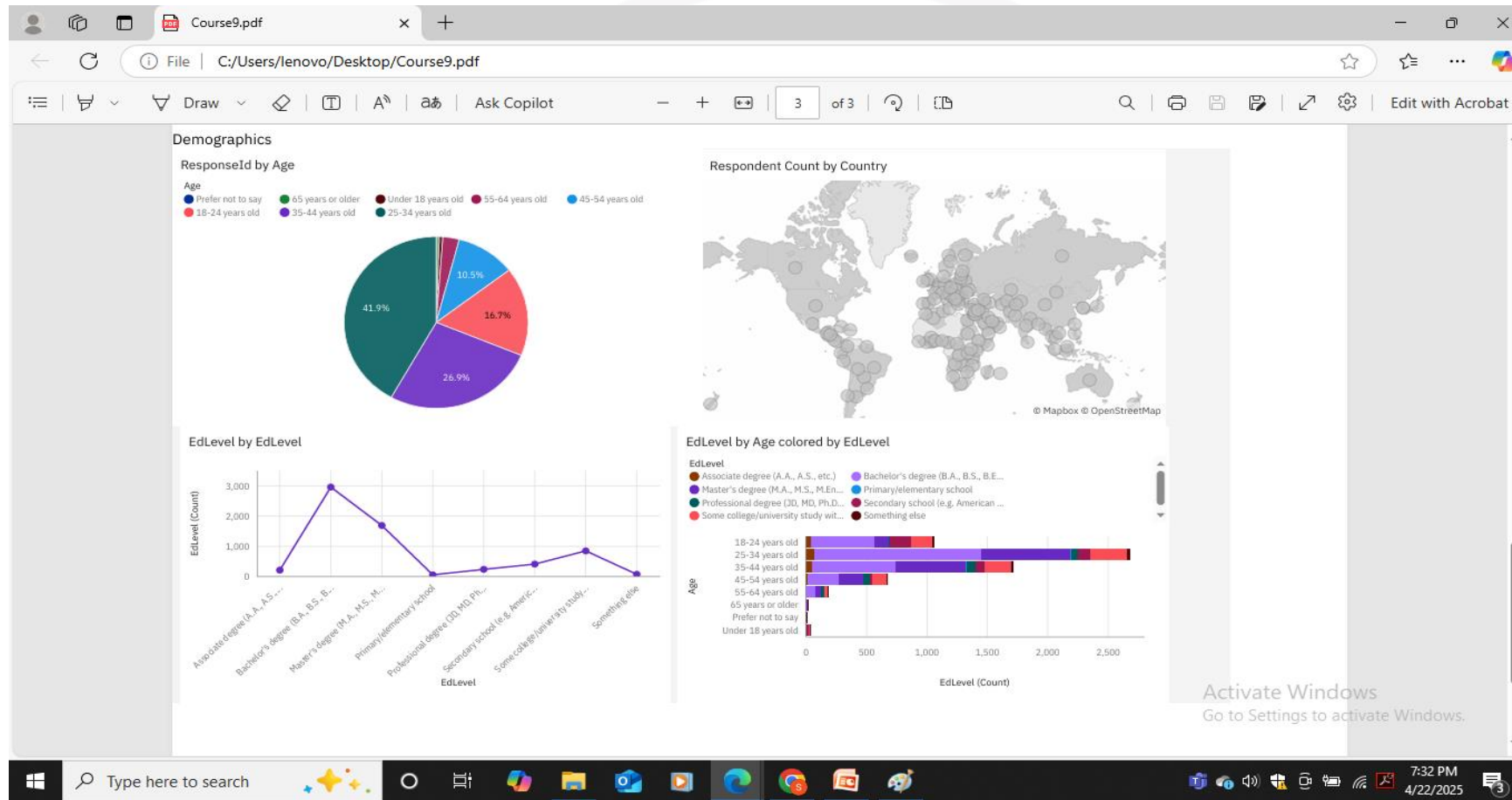
DASHBOARD TAB 1

DASHBOARD TAB 2

DASHBOARD TAB 3

OVERALL FINDINGS & IMPLICATIONS

Findings

- The findings reveal that a significant portion of individuals in the IT field possess a Bachelor's degree, indicating its importance as a foundational qualification. Web development languages emerge as the predominant and sought-after tools within the IT sector presently, highlighting their critical role in driving technological advancements.

- The analysis sheds light on the current demand for programming languages and database skills, offering insights into industry trends and future growth prospects.

Implications

- Implications drawn from the analysis suggest a need for data professionals to diversify their skill sets by acquiring proficiency in NoSQL databases alongside SQL

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CONCLUSION

- Programming Language Trend: The findings reveal that JavaScript, HTML/CSS, PowerShell, Java, and C# emerge as the top five programming languages in demand for the current year, with Go replacing Java's position. This underscores the industry's robust demand for both front-end and back-end development expertise, as well as proficient data analysis and management skills.

- Database Trend: Analysis indicates that PostgreSQL, MongoDB, Microsoft SQL Server, MySQL, and SQLite lead in demand for databases next year, with Elasticsearch supplanting SQLite. This emphasizes the escalating significance of data management and big data technologies within the industry landscape.

- Platform Trend: The study identifies Google Cloud Platform, AWS, IBM Cloud, Windows, and Microsoft Azure as the top platforms for the current year, while Docker, AWS, Android, Linux, Google Cloud Platform, and Kubernetes are forecasted as high-demand platforms for the upcoming year. This underscores developers' versatility and adaptability in navigating diverse platforms and technologies.

- Web Framework Trend: Results indicate that React.js, Angular, JQuery, ASP.NET, and Express remain the top five desired web frameworks for both the current and upcoming year. This highlights the increasing importance of front-end development skills and underscores the necessity for developers to excel in constructing dynamic and user-friendly website

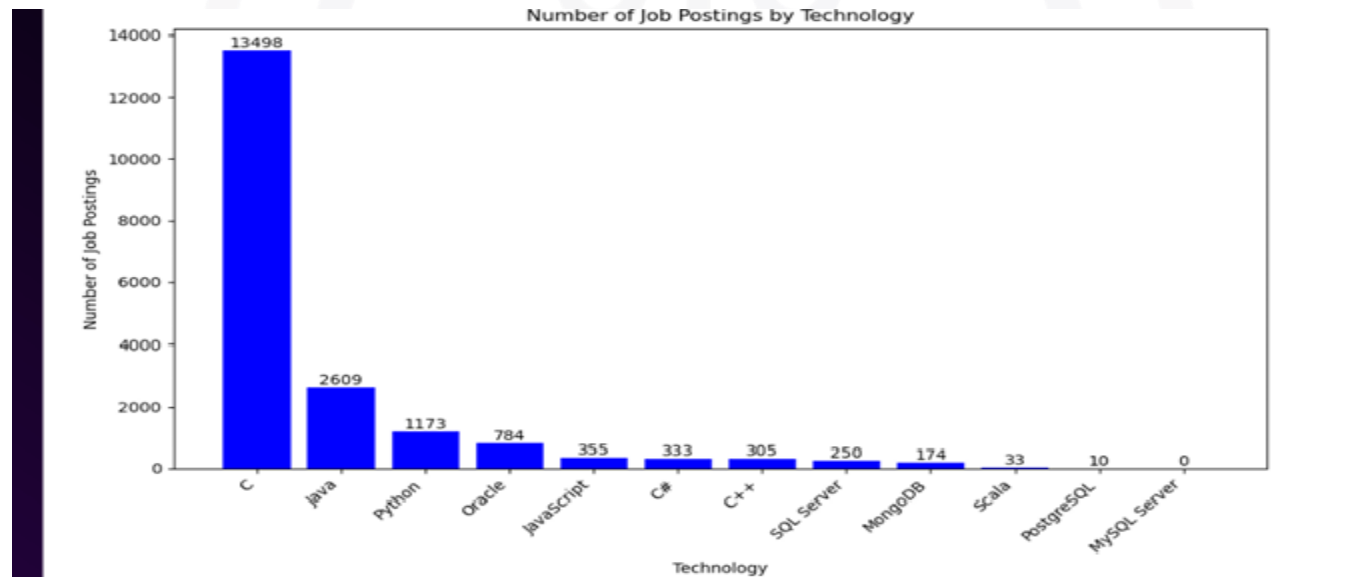# APPENDIX
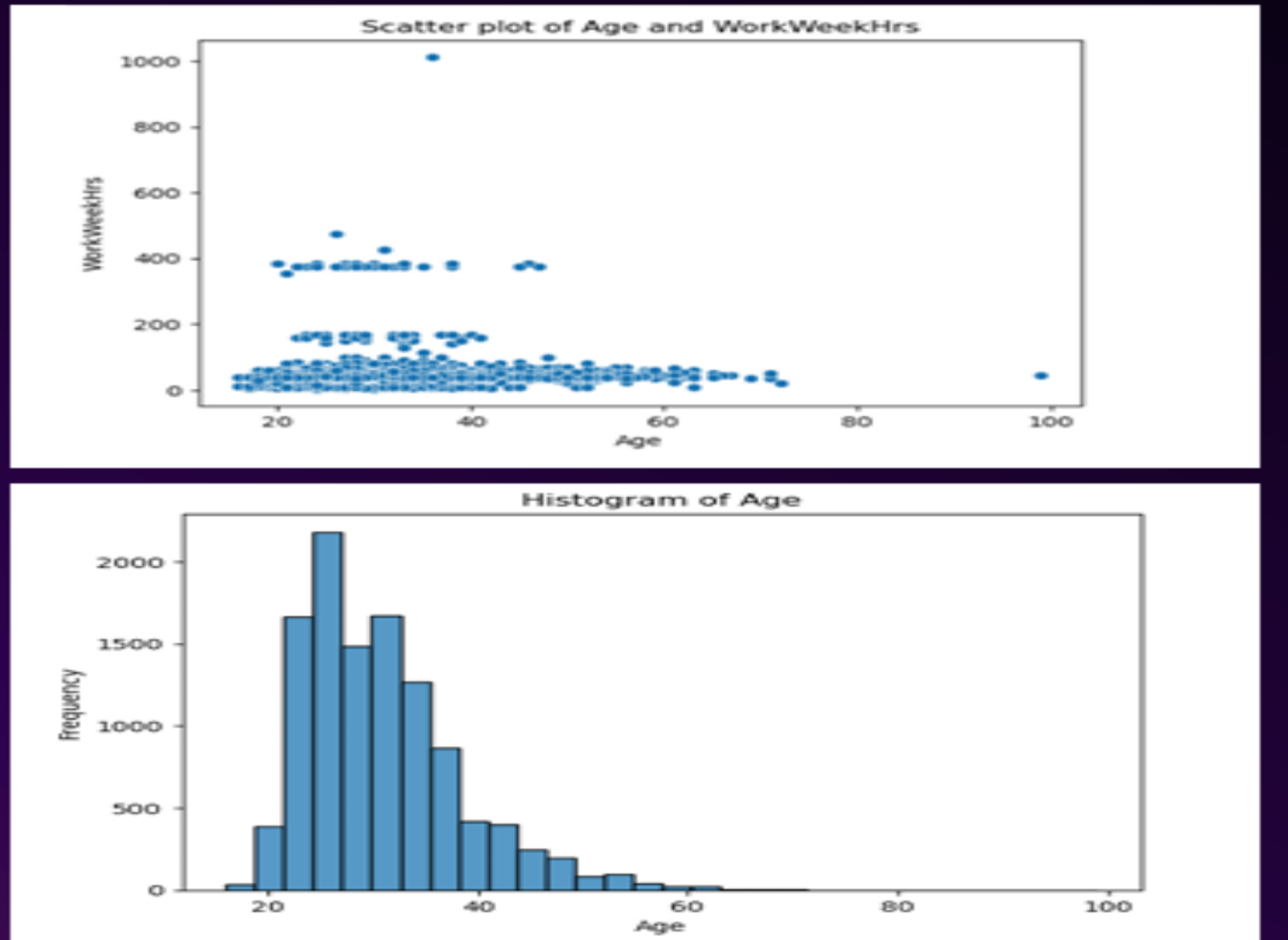
JOB POSTINGS

In Module 1 you have collected the job posting data using Job API in a file named "job-postings.xlsx". Present that data using a bar chart here. Order the bar chart in the descending order of the number of job postings.

POPULAR LANGUAGES

In Module 1 you have collected the job postings data using web scraping in a file named "popular-languages.csv". Present that data using a bar chart here. Order the bar chart in the descending order of salary.

Average Annual Salary by Programming Language

Language	Average Annual Salary
Swift	$130801.00
Python	$114383.00
C++	$113865.00
Javascript	$110981.00
Java	$101013.00
Go	$94082.00
R	$92037.00
C#	$88726.00
SQL	$84793.00
PHP	$84727.00