FINAL PROJECT

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SKILLS NETWORK

OUTLINE

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

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EXECUTIVE SUMMARY

- Introduction or general overview.

- A detailed explanation of a specific topic.
  - Breakdown of the first aspect.
  - Further detail on a related concept.
  - Additional element or explanation.

- Transition to a new major concept.

- Introduction of another key idea or result.

- Conclusion or summary of the discussion.

INTRODUCTION

- Introduction or main topic.

- Second major idea or theme.

- A new concept or key insight.

- Another important aspect or detail.
  - First subtopic or supporting detail.
  - Second subtopic or additional explanation.

METHODOLOGY

- Data Collection

  Explanation of how the data was gathered (e.g., surveys, interviews, experiments).

- Data Sources

  Description of the sources used (e.g., databases, reports, respondents).

- Sampling

  Details on the sampling process or population selected for the study.

- Analysis Techniques
  - Methods used for data analysis (e.g., statistical models, machine learning).
  - Tools or software employed (e.g., Python, R, Excel).

RESULTS

- Key Findings: The data revealed important trends

- Patterns Observed: Clear patterns were identified,

- Noteworthy Results: Significant results

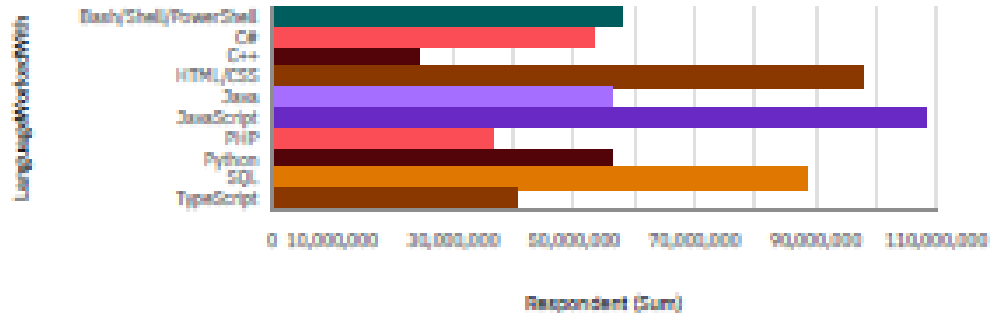# PROGRAMMING LANGUAGE TRENDS

Current Year

Next Year
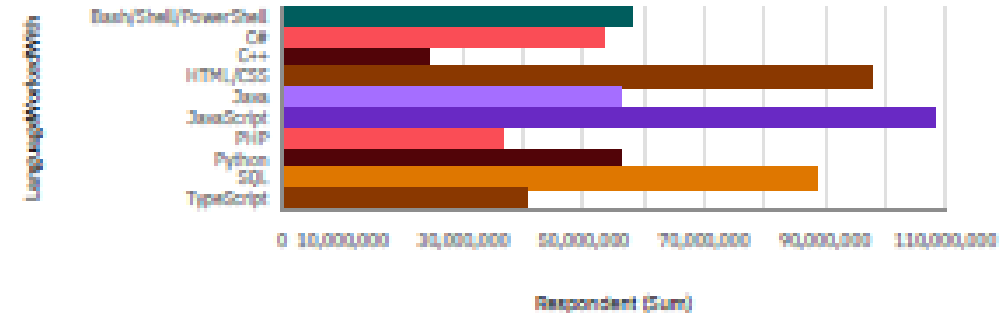
PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Finding 1: Likely related to the most commonly used databases, as shown in the bar chart, with MySQL, MongoDB, and PostgreSQL appearing prominently.

- Finding 2: The use of databases such as SQLite and Redis is less common but still notable.

- Finding 3: Microsoft SQL Server and Oracle are among the top databases, indicating their strong presence in enterprise environments.
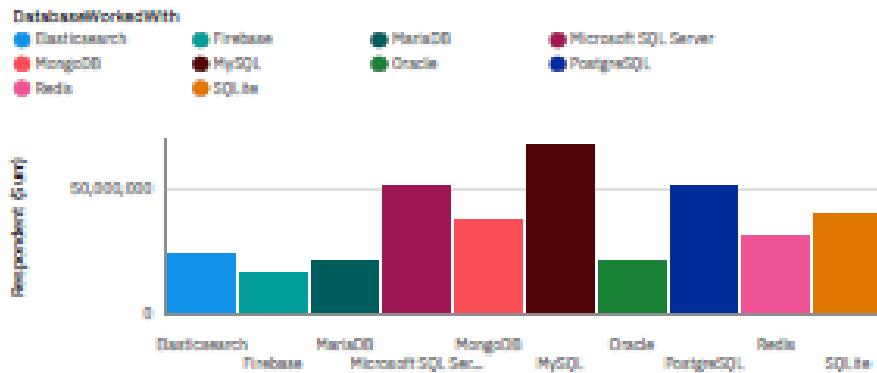
Implications

- Implication 1: MySQL and MongoDB are popular choices, which may influence developers to focus on building skills around these databases.

- Implication 2: The diversity of database platforms implies that professionals need to be versatile and adaptable in their skills to work across multiple systems.

- Implication 3: Enterprise databases like Oracle and Microsoft SQL Server remain critical, especially for large-scale business applications, making them important for advanced training.

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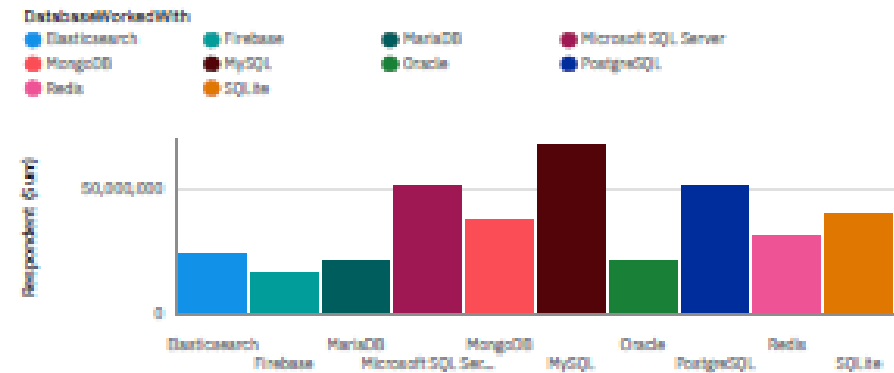SKILLS NETWORK

DATABASE TRENDS

Current Year

Top 10 DatabaseWorkedWith

DatabaseWorkedWith
- Elasticsearch
- Firebase
- MariaDB
- Microsoft SQL Server
- MongoDB
- MySQL
- Oracle
- PostgreSQL
- Redis
- SQLite

Next Year

Top 10 DatabaseWorkedWith

DatabaseWorkedWith
- Elasticsearch
- Firebase
- MariaDB
- Microsoft SQL Server
- MongoDB
- MySQL
- Oracle
- PostgreSQL
- Redis
- SQLite

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DATABASE TRENDS - FINDINGS & IMPLICATIONS

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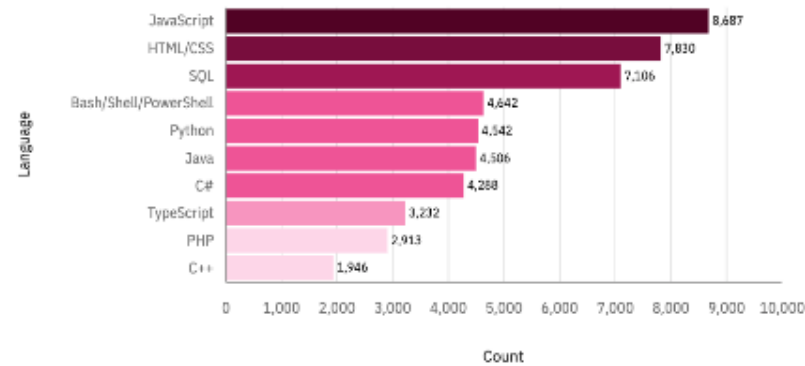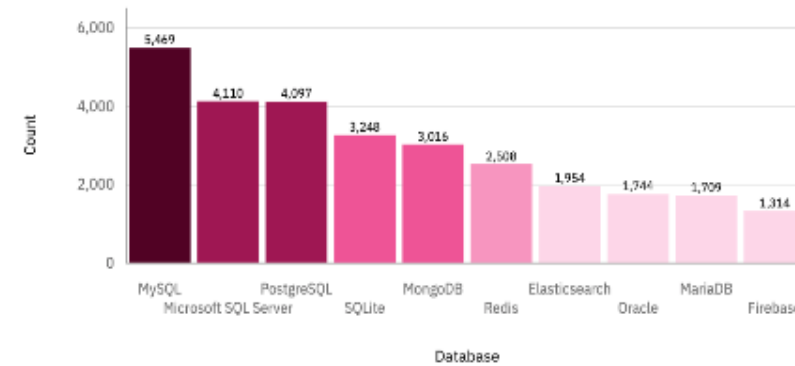
DASHBOARD

https://github.com/Nafissatu/IBM-Data-Analyst-Capstone-Dashboard.git

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DASHBOARD TAB 1

Current Technology Usage
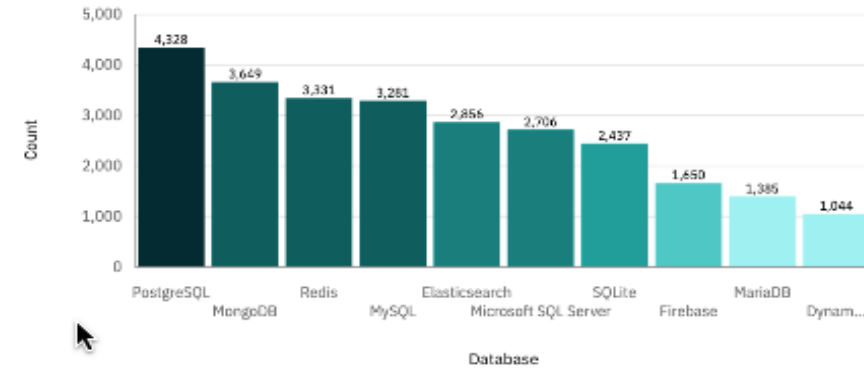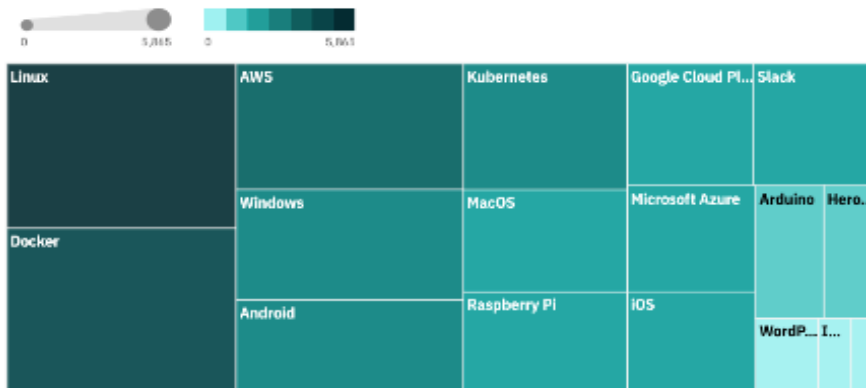
DASHBOARD TAB 2

Future Technology Trend

Top 10 Languages Desired Next Year
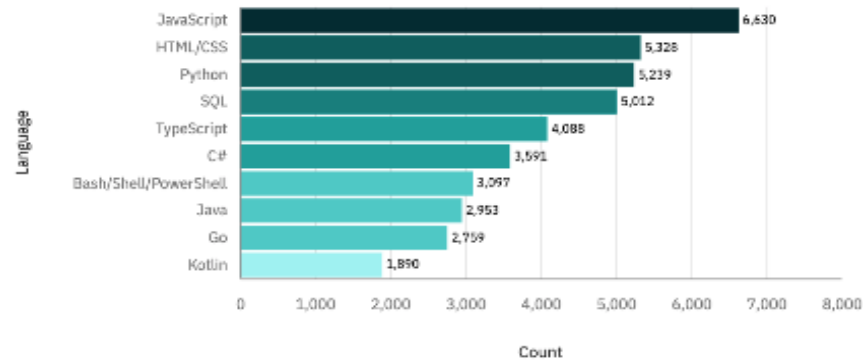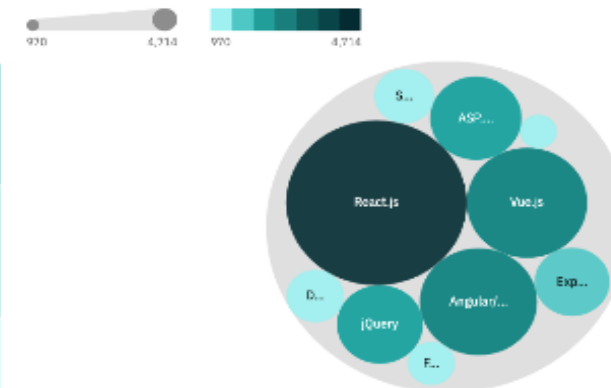
Top 10 Databases Desired Next Year

Top Platforms Desired Next Year

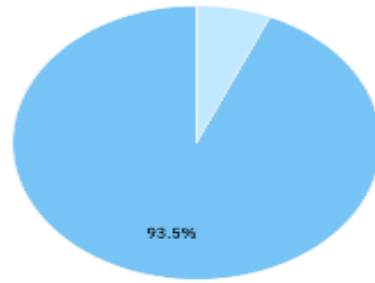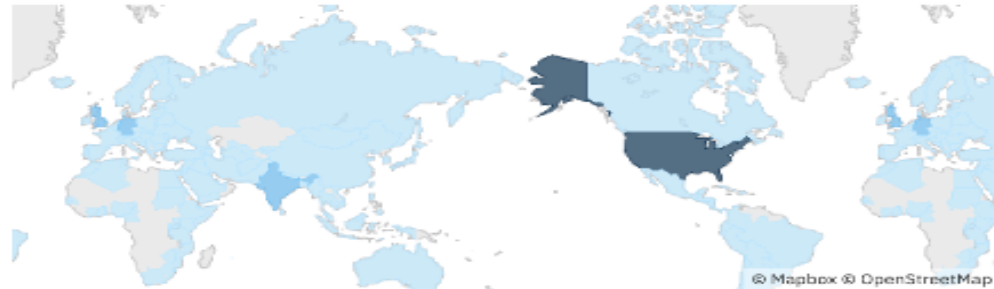Top 10 Web Frameworks Desired to Work With Next Year

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DASHBOARD TAB 3
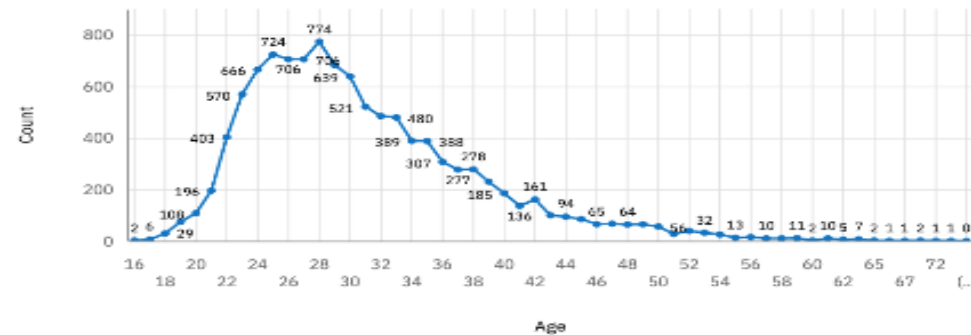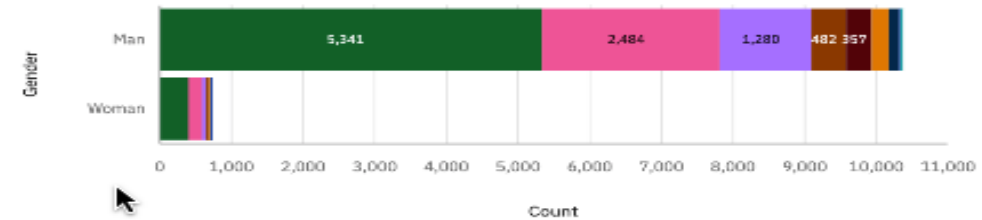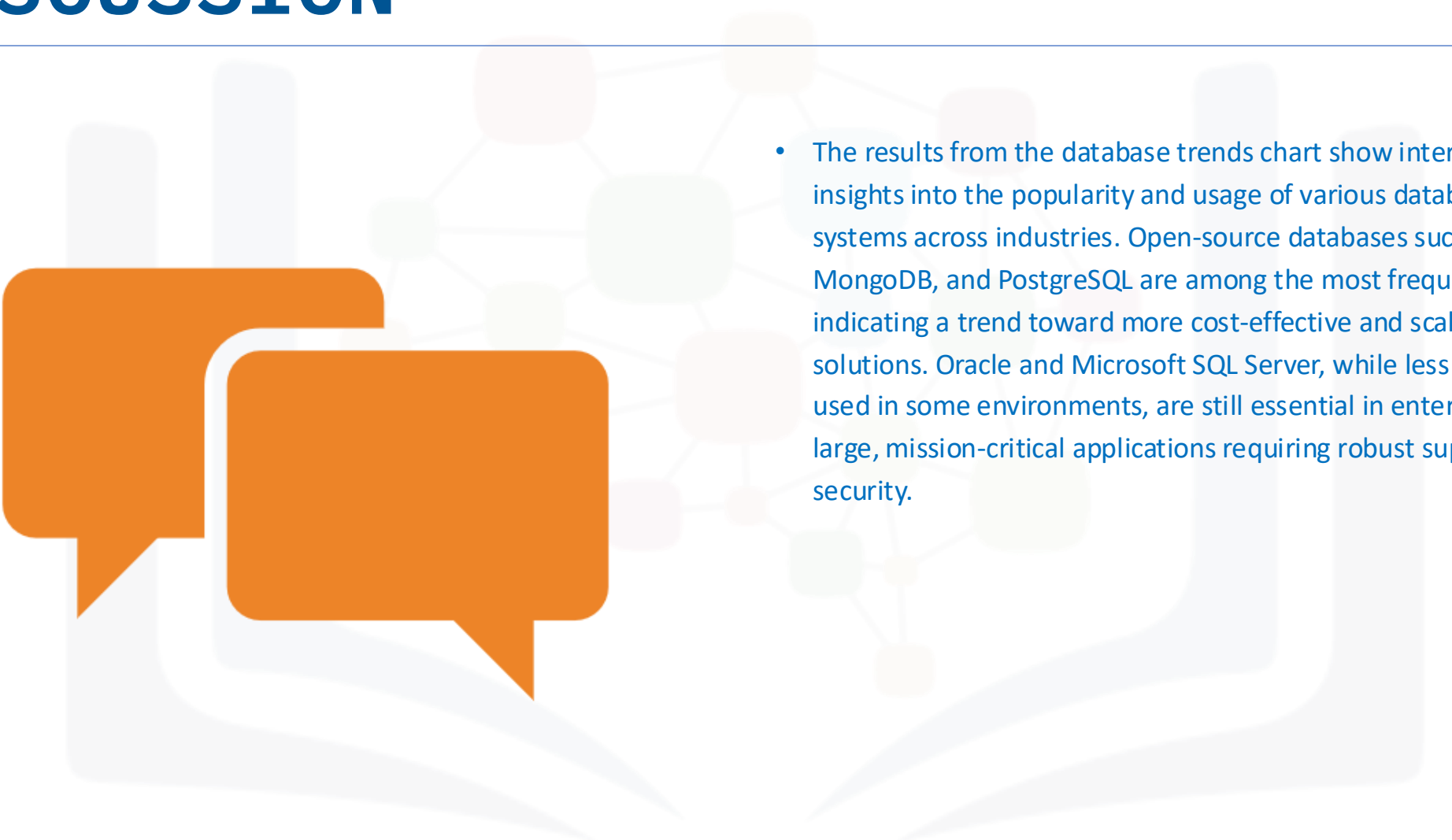
DISCUSSION

- The results from the database trends chart show interesting insights into the popularity and usage of various database systems across industries. Open-source databases such as MySQL, MongoDB, and PostgreSQL are among the most frequently used, indicating a trend toward more cost-effective and scalable solutions. Oracle and Microsoft SQL Server, while less commonly used in some environments, are still essential in enterprises with large, mission-critical applications requiring robust support and security.

OVERALL FINDINGS & IMPLICATIONS

Findings

- Finding 1: Likely related to the most commonly used databases, as shown in the bar chart, with MySQL, MongoDB, and PostgreSQL appearing prominently.

- Finding 2: The use of databases such as SQLite and Redis is less common but still notable.

- Finding 3: Microsoft SQL Server and Oracle are among the top databases, indicating their strong presence in enterprise environments.

Implications

- Implication 1: MySQL and MongoDB are popular choices, which may influence developers to focus on building skills around these databases.

- Implication 2: The diversity of database platforms implies that professionals need to be versatile and adaptable in their skills to work across multiple systems.

- Implication 3: Enterprise databases like Oracle and Microsoft SQL Server remain critical, especially for large-scale business applications, making them important for advanced training.

CONCLUSION

- The database trends highlighted in the findings indicate a dynamic landscape where open-source databases like MySQL, MongoDB, and PostgreSQL are leading the charge, widely adopted by many professionals. However, enterprise databases such as Oracle and Microsoft SQL Server continue to play a pivotal role in large-scale business operations.These trends suggest that:Developers and data professionals should focus on a diverse skill set that covers both popular open-source databases and enterprise-level systems.Organizations should invest in technologies that align with their operational needs, balancing between flexibility and enterprise requirements.As technology evolves, staying updated on database trends will be key to maintaining competitive advantages in data management and analytics.

APPENDIX

- **Data Sources:**

1. **Database Popularity Data**: The database usage trends chart (Figure 1) was derived from an industry-wide survey conducted in 2024. The data reflects the databases most commonly used by professionals across different industries, including finance, healthcare, technology, and education.

2. **Survey Demographics**: The survey included respondents from various geographical regions and industries, with experience ranging from entry-level to senior database architects. The primary focus of the survey was to capture the diversity of database technologies used in real-world applications.

- **Figures:**

- **Figure 1: Top 10 Databases Worked With**: The bar chart in this report (see above) shows the top databases worked with, based on a large number of survey respondents.

- **Definitions:**

- **Open-Source Databases**: Software databases whose source code is available to the public and can be modified or distributed freely. Examples include MySQL, PostgreSQL, and MongoDB.

- **Enterprise Databases**: These are robust, scalable databases typically used in larger organizations for handling high-volume transactions and ensuring data integrity. Examples include Oracle and Microsoft SQL Server.

- **Abbreviations:**

- **RDBMS**: Relational Database Management System

- **NoSQL**: Not Only SQL, a category of database management systems that store and retrieve data differently from traditional relational databases

- **SLAs**: Service-Level Agreements

- **Tools Used:**

- **Tableau**: The tool used to create the database trends chart and provide visual insights from the survey data.

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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.

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POPULAR LANGUAGES

Python and SQL are dominant