**ASSIGHNMENT**

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**1.Compare and contrast tableau and Power Bi.**

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|  |  | **TABLEAU** | **POWER Bi** |  |  |  |
| **1.**  **2.**  **3.**  **4.**  **5.** | EASE OF USE  **PERFOMANCE**  **COST**  **INTERGRATION**  **VISUALIZATION** | Tableau is powerful and has a steeper learning curve.  It is known for handling larger datasets with faster performance  Tableau is more expensive  Tableau offers more flexibility with connecting to a wide range of databases.  Tableau is often known for more advanced, complex, visualization | While power Bi is more beginner-friendly with  An intuitive interface, especially for Microsoft  users  while Power Bi may be slow with very large  data  while Power Bi is generally more affordable  especially for small businesses  while Power Bi integrates seamlessly with  Microsoft products like (Excel, Share point)  While Power Bi offers simpler and standard  visuals |  |  |  |

**2.Distinguish between excel and python Power Bi.**

* + - * Excel is primarily a spreadsheet tool used for data analysis, reporting, and visualization with built-in functions and chats.
      * While PYTHON POWER Bi allows for advanced data manipulation, machine learning and visualizations using Pandas, Matplotlib. It also provides more flexibility and automation for complex data processing tasks.

**3.State and explain types of Databases.**

* + - * **Rational Databases:**(SQL): Data is organized into tables, rows and columns, with predefined relationships. Eg (Microsoft SQL)
      * **NoSQL Database:** This database handles unstructured or semi-structured data, ideal for large-scale, flexible data models.
      * **Cloud Database:** Managed database services hosted in the cloud, offering scalability and accessibility. (Eg) (Cloud SQL)
      * **Object oriented database:** Store data as objects, similar to object-oriented programming. Useful for complex data structures.eg, ObjectDB

**4.Highlight some considerations that would inform your choice for data analysis tool.**

* + - * **Data Size**: The tool must handle the volume of data efficiently.
      * **Complexity**: Choose a tool that supports necessary analytical techniques (e.g., statistical, machine learning).
      * **Ease of use**: Consider user experience and learning curve.
      * **Integration**: Ability to connect with other tools and data sources.
      * **cost**: Budget constraints for licenses or subscriptions.
      * **Collaboration**: Features for sharing and teamwork.
      * **Visualization**: Quality and options for data visualization.
      * **Scalability**: Support for growing data and complexity over time.