**Assignment 1**

1. **Compare and contrast Tableau and Power BI**
2. Tableau has a more user-friendly and intuitive interface, with drag and drop functionality and easier-to-use visuals whereas, Power BI can take a bit more time to learn
3. Tableau can connect to a wider range of data sources including cloud-based database and web services while Power BI is more tightly integrated with Microsoft products i.e. excel and SQL Server
4. Tableau is more expensive especially for enterprise-level solutions, Power BI is more affordable with a free version and lower -cost paid options
5. Tableau provides more advanced customization options for dashboards and visualization, whereas Power BI is more limited in this regard.
6. Power BI has more collaboration features built-in, such us commenting and co-authoring whereas Tableau requires third party tools to achieve similar function.
7. Power BI has a more robust mobile app for iOS and android devices while Tableau mobile app is more limited in functionality
8. Power Bihas a more robust data modelling and ETL (Extract, Transform, Load) capabilities than Tableau making it a better choice for data manipulation and analysis.
9. **Distinguish between excel and Python Power Bi**
10. Power BI can handle large datasets with fast speed, but with excel it is frustrating
11. Power BI have plenty of visualization to design the dashboard while excel has limited
12. Power BI allows collaboration and sharing of insights with team members while with excel its difficult
13. **State and explain types of Databases**
14. SQL (Structured Query Language) Databases

This enables efficient storage and retrieval of structured data, supports complex queries and transactions e.g. MySQL, PostgreSQL

1. NoSQL Databases

Ideal for handling unstructured or semi-structured data, offers scalability and flexibility for big data applications e.g. Cassandra, Redis

1. **Highlight some considerations that would inform your choice of data analysis tool.**
2. Scalability: evaluate whether the tool can handle the volume, velocity and variety of data required for analytics
3. Ease of Use: consider the tool’s interface, documentation and support resources to assess its usability and value for the organization.
4. Cost: compare the licensing, subscription and maintenance costs associated with the tool to determine is affordability and value for the organization.
5. Community and Support: Look for active user communities, forums and documentation to ensure access to resources and assistance when needed