**Tableau: Homework 1 – Dipika Jothinathan**

1. What is Tableau?

Tableau is a rapid Business Intelligence tool for visual data analysis. It is used by businesses, academic researchers, and many government organizations. It is also positioned as a leader Business Intelligence and Analytics Platform in Gartner Magic Quadrant.

1. Explain about Tableau’s key features.

Users can create and distribute an interactive and shareable dashboard which depicts the trends, variations, and density of the data in the form of graphs and charts. Tableau can connect to files, relational and Big Data sources to acquire and process data. The software allows data blending and real-time collaboration, which makes it unique. We can create parallelized dashboards, quick filters, and calculations. It is easy to learn but powerful to satisfy the most complex analytical problems.

1. Explain about the different data types in Tableau.

Data types in Tableau are:

* String values (char and varchar)
* Numeric values (int and float)
* Date values
* Date & Time values
* Boolean values (relational only)
* Geographic values (used with maps)
* Image role (used with image link URLs)
* Cluster or mixed values (used with Find Clusters in Data)

1. What are Measures and Dimensions?

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1. Differentiate between discrete and continuous.

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1. What is a Tableau Desktop?

Tableau Desktop: This is a more powerful business analytics tool that can be used by almost anyone. It can translate the picture into optimized queries, and you can connect with data directly for live data analysis. Also, you could perform queries on the database with a single line of code. In brief, you had the flexibility of importing data from multiple sources by combining multiple views within an interactive dashboard.

1. What is the difference between Tableau and Power BI?

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1. What are the limitations of Tableau?

* Tableau focuses primarily on visualization and cannot work with uncleaned data. To efficiently use Tableau, it is needed to do proper data cleaning in the underlying database first.
* Lacks data modeling and data dictionary capabilities for Data Analysts.

### **Poor versioning -** The main disadvantage of using Tableau is, only recent versions support revision history and for the older one's package rolling back is not possible.

### **No automatic refreshing of reports** with the help of scheduling. Therefore, some manual effort required to update the data in back-end.

### **Need Manual Effort:** Tableau’s parameters are inactive and only a single value can be selected using a parameter. Hence, it should be update it manually whenever the data gets change.

### **Not a Comprehensive Solution:** Even if the Tableau Software is easy to use for BI application, still it doesn’t provide any platform for developing analytic applications that can be widely shared. Also, it doesn’t suit the business that has expanded deployments of broad business.

### **No Version Control:** Once the dashboards and reports are published on the server, it is not possible to get back to the previous levels of data in Tableau. It is not possible to go back and recover old data.

### SQL knowledge is required to create rich and complex datasets from multiple data sources. A tableau is an excellent option for business users to play with the data once the dataset is created.

1. What key data connections do Tableau support?

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1. What to consider while bringing data to Tableau?

Local connection gives the maximum speed of data processing. While working on Tableau, data can have Live Connection where any change in the source data will be automatically updated in Tableau. On the other hand, data can be Extracted to the Tableau repository so that any change made here will not affect the original source data.

1. What are the advantages of BI?

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1. What are key challenges for BI?

Certain BI challenges include:

* Integrating data from different source systems
* Data quality issues
* Lack of data talent
* Bad data visualization
* Choosing the right software
* Low adoption levels of BI among employees

1. Explain what Self-Serving BI is.

Self-service business intelligence is an approach to data analytics that enables business users to access and explore data sets even if they don't have a background in BI or related functions like data mining and statistical analysis. Self-service BI tools allow users to filter, sort, analyze and visualize data without involving an organization's BI and IT teams.

1. Explain BI vs Data Analysis.

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