**MODULE 1**

Compare the state-of-the-art tools of data visualization. Write down the selection criterion for choosing the specific tool

Classify the data types in the context of data visualization. Briefly explain by an example dataset.

Convince how pre-attentive properties are necessary to exploit the human visual ability for better visualization. Illustrate it through an example. <https://www.interaction-design.org/literature/article/preattentive-visual-properties-and-how-to-use-them-in-information-visualization> PPT M1L1 -16

Write short notes on aggregation and granularity.

Illustrate the various elements of effective data visualization by an example.

Define data visualization. Illustrate how data visualization is better than the traditional text-based data methods

Explain the comparison between data gathering and data preparation?

Explain Tufte’s Principles of Design

compare Infographics vs. Data Visualizations

Why is data cleansing important for data visualization

What are the steps required to design an information visualisation

Discuss about different types of visualization.

How to visualize hierarchical data with negative value? Explain

Explain about the benefits of interactive data visualization.

Does human interpretation play any role in the perception of visualization?

What is the impact of visualization in business enterprise?

What is the purpose of data visualization techniques?

What is the importance of colour hue in visual perception?

Explain design challenges in information visualization.

How does edges, contrast, color, keys, labels and legends affect visual perception?

What, in your opinion are the advantages of visualizing complex data? Elaborate with suitable examples.

Explain the principles that enhance the effectiveness of data visualization with an appropriate example?

Explain the types of visualization with a suitable example?

Describe data visualization as a discovery tool?

**MODULE 2**

List out the various features of good data graphics. Apply them to the following Data snnipet

Compare presentation graphics and exploratory graphics.

Write short note on trellis plot.

Design a graphical layout to show the relationship between the X and Y parameter and apply the features of complete plot.

Design a graph for the following correlation matrix. Also, describe the graphical elements.

With an example demonstrate different line style in a single graph.

How can a one-dimensional multivariate data be visualized?

Explain tree visulization with the help of suitable example.

What strategy can be used to convert a nonplanar graph into planar?

Briefly explain some 2-D data projection techniques.

Explain grammar of graphics. What are different components of plot?

What is the use of linked views? Explain various visualization techniques for linked views.

With the help of appropriate data, define the following operations commonly used in data visualization and briefly explain their function and application:-

Multivariate Data Glyphs

Graphical Representation

Tree and Forest Visualization

How graphical representations helps and explain it types?

Why the visualization of high-dimensional data is important? Explain

Explain the concept of Linked Views for Visual Exploration

**MODULE 3**

Describe with an example of geolocated data visualization.

Describe about Data Visualization examples on Location Data