

Data Analytics

Prepared by Dr. Mohamed Sleem

FNT 631
Data Analytics

Lecture 0



Data Analytics

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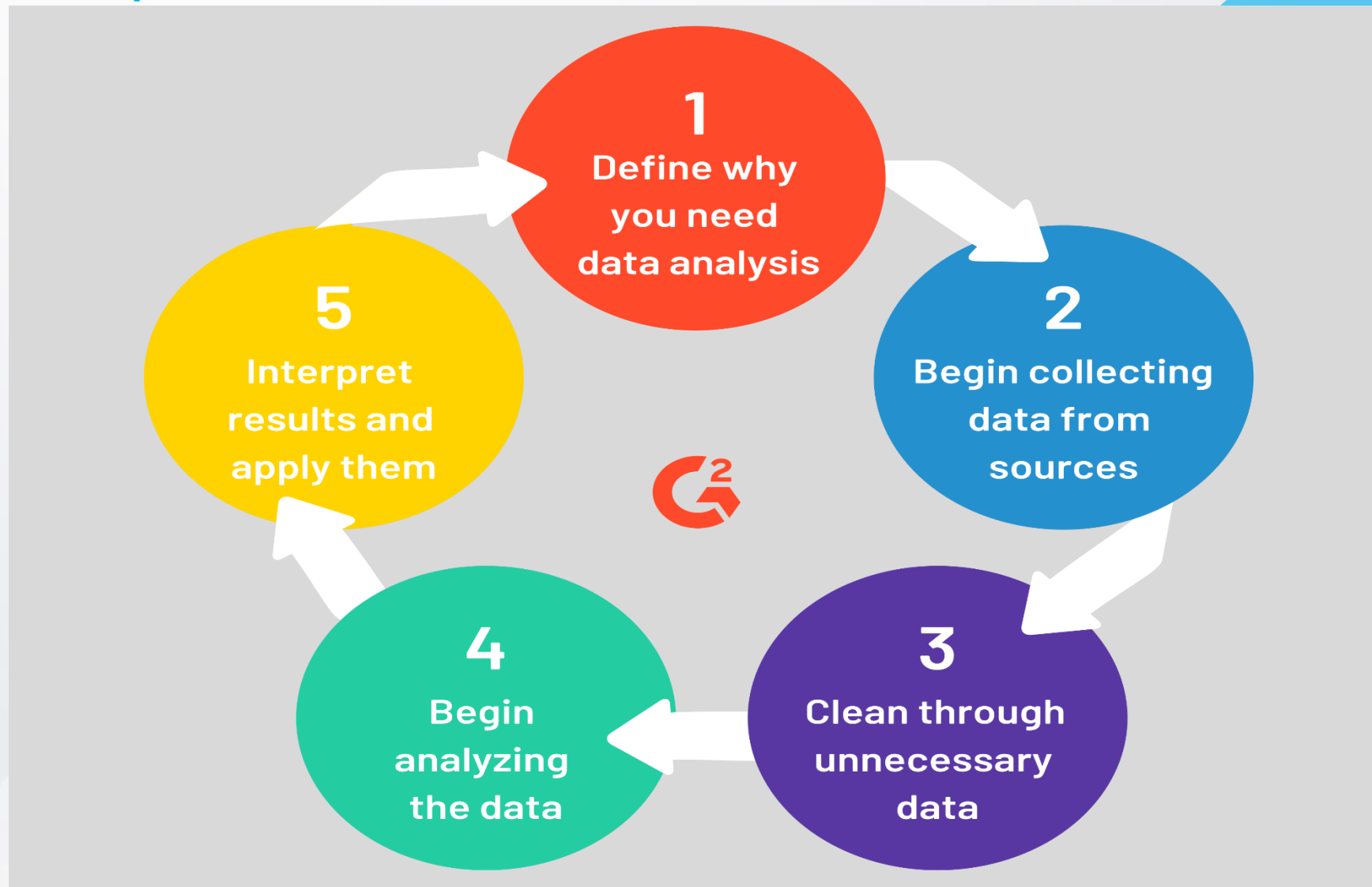
Lecture 0

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Chapter
01

Introduction to Data Analysis

1. Understand the importance of data analysis in decision-making processes.
2. Learn basic data analysis techniques and tools.
3. Gain insights into the various steps involved in data analysis.

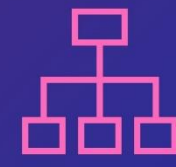
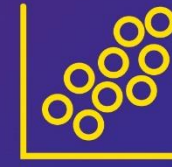
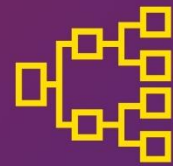


Chapter
02

Data Visualization

1. Understand the principles of effective data visualization.
2. Learn various types of visualization techniques such as charts, graphs, and maps.
3. Explore tools and software for creating visualizations.
4. Enhance communication and presentation of data analysis results.

WHAT IS DATA VISUALIZATION?



Chapter
03

Descriptive Statistics and Data Analysis

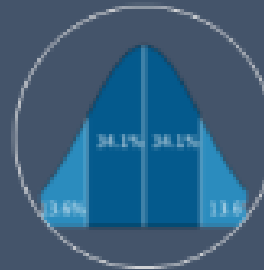
1. Understand the concept of descriptive statistics and its importance in data analysis.
2. Learn how to calculate and interpret various descriptive statistics measures.
3. Apply descriptive statistics techniques to analyze datasets.

Chapter
03

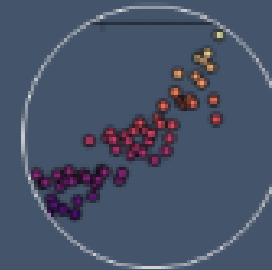
Descriptive Analysis



Measures of
frequency



Measures of
central
tendency



Measures of
dispersion



Measures of
position

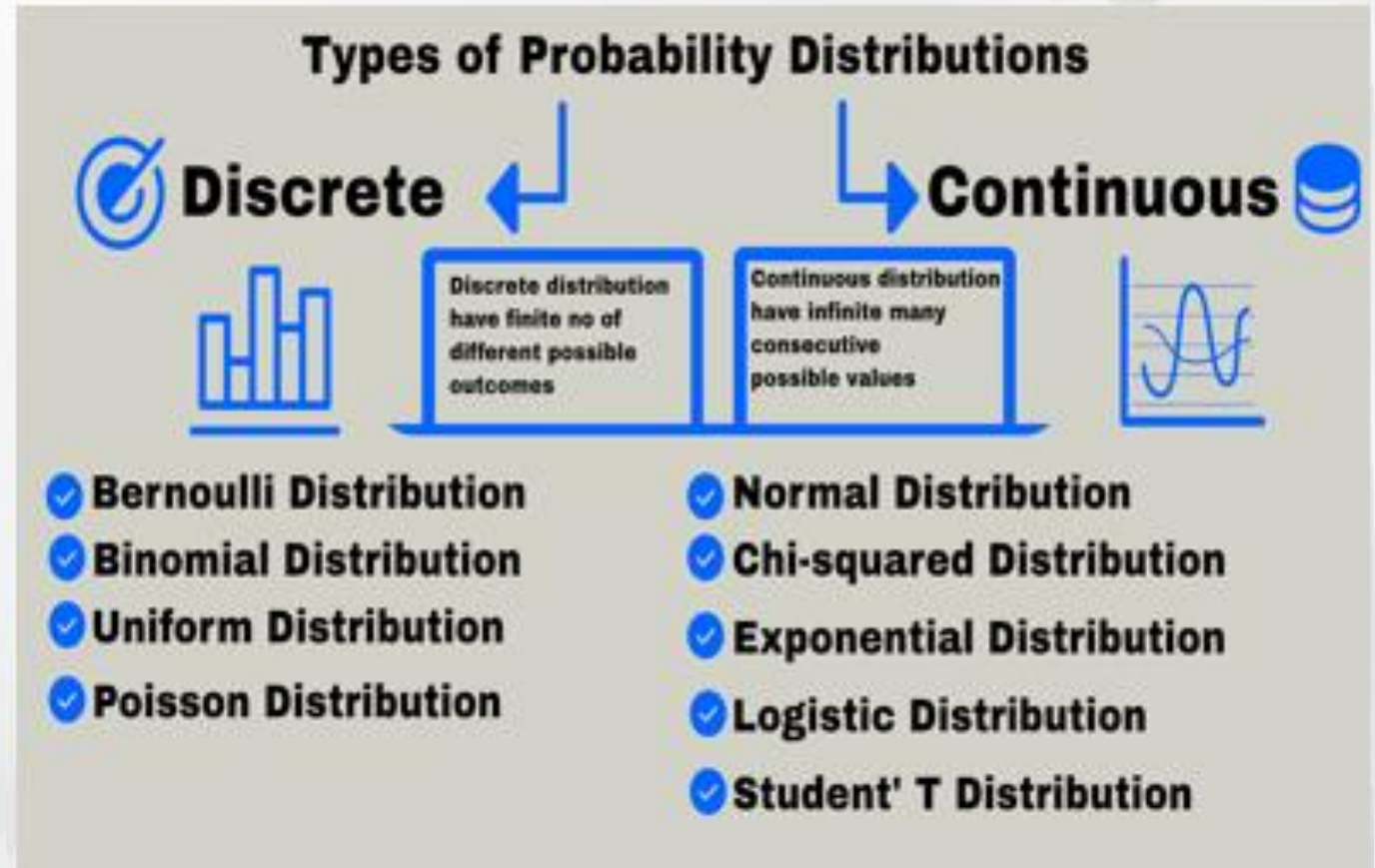


Chapter
04

Probability Concepts and Distributions

1. Understand basic probability concepts such as events, outcomes, and probability rules.
2. Learn about different probability distributions and their properties.
3. Apply probability concepts to analyze real-world scenarios.

Chapter
04

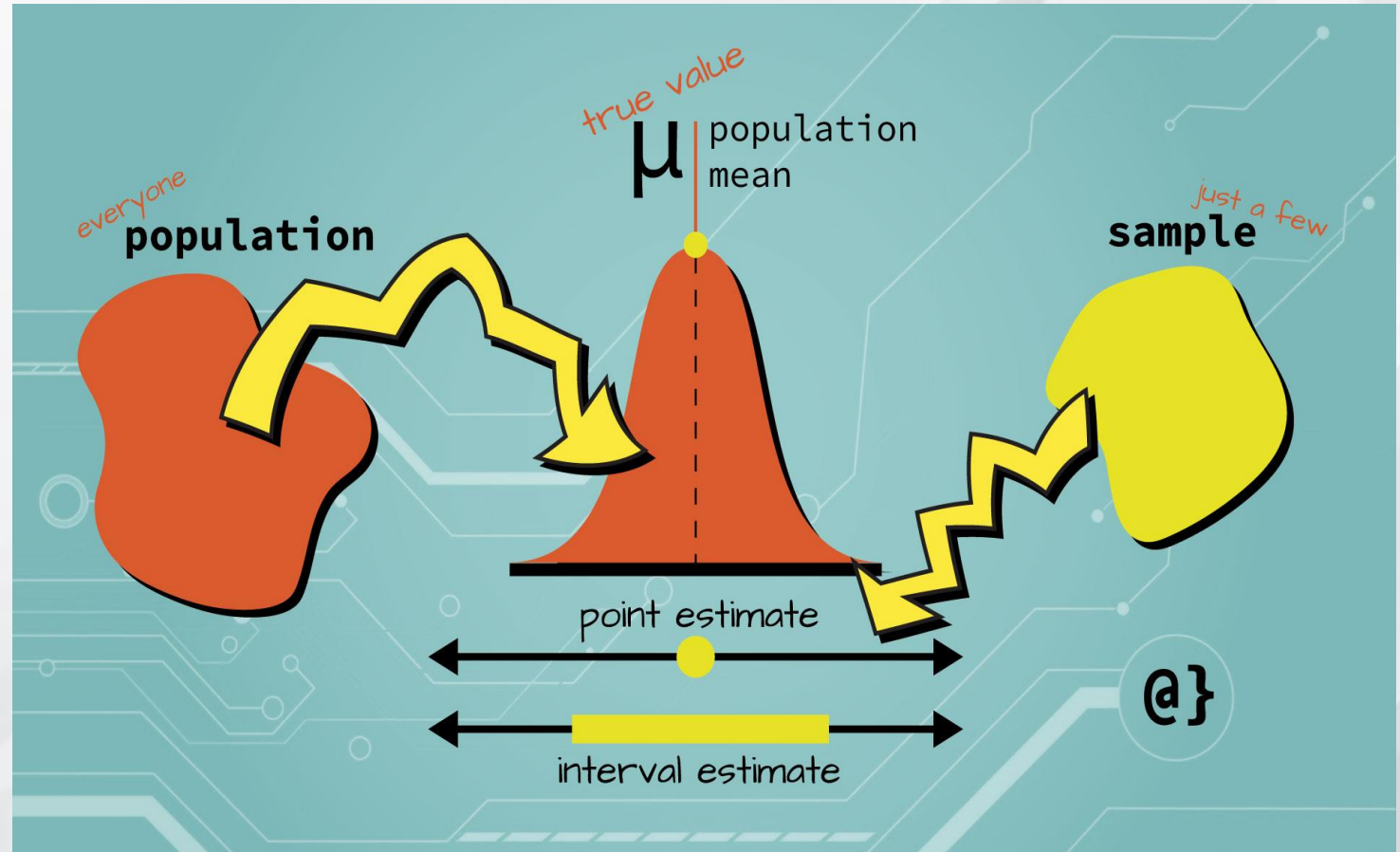


Chapter
05

Sampling and Estimation

1. Understand sampling techniques and their importance in data analysis.
2. Learn methods for estimating population parameters from sample data.
3. Apply sampling and estimation techniques to solve practical problems.

Chapter
05

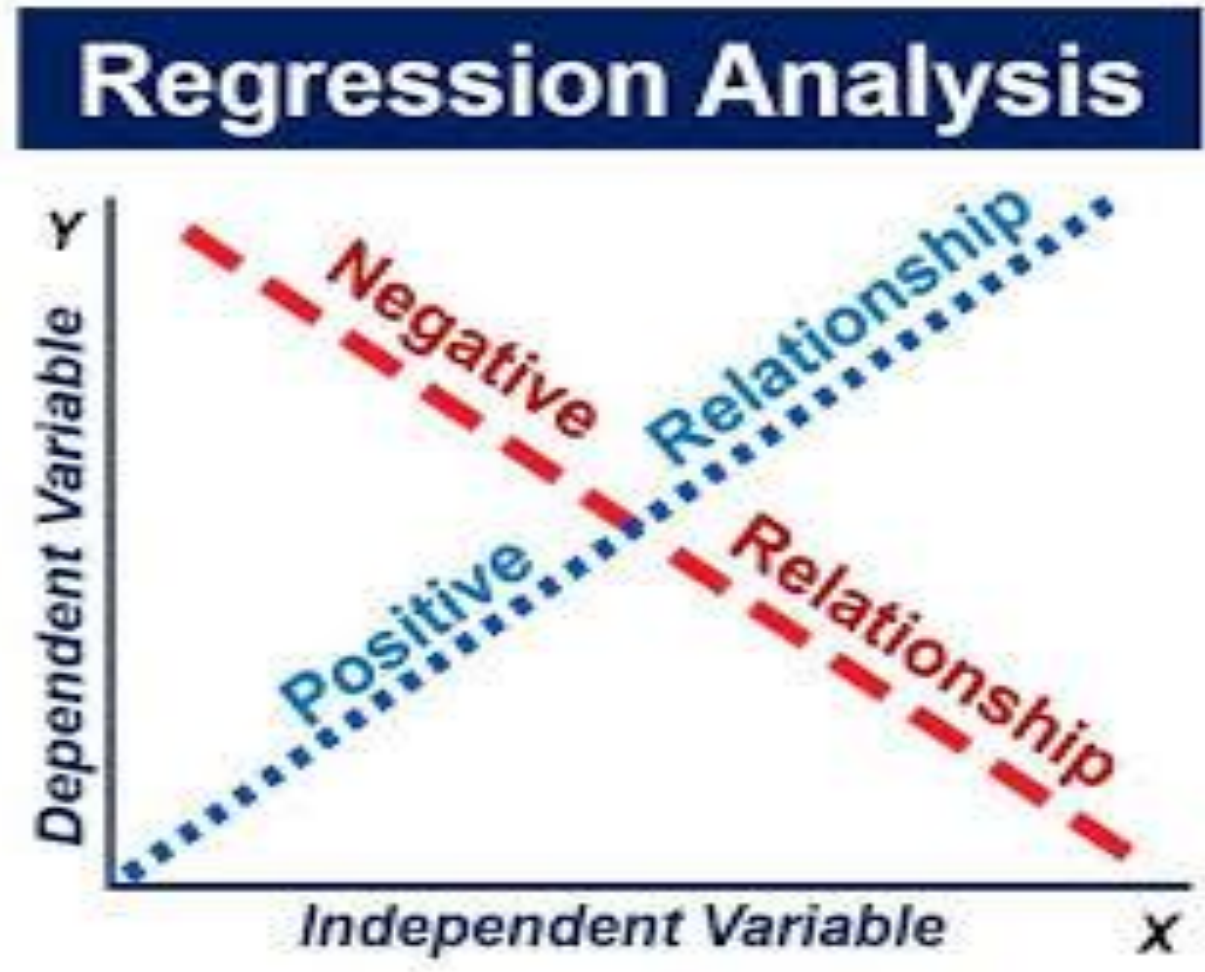


Chapter
06

Regression Analysis

1. Understanding the principles of regression analysis.
2. Learning different types of regression models.
3. Applying regression analysis to explore relationships and make predictions.

Chapter
06



Chapter
08



Chapter
07

Forecasting

1. Understand the concept of forecasting and its significance in business and decision-making.
2. Learn various forecasting techniques such as time series analysis, regression-based forecasting, and qualitative methods.
3. Apply forecasting methods to predict future trends and outcomes.

Chapter
08



Chapter
08

Building and Using Decision Models

1. Understand the concept of decision modeling and its applications.
2. Learn different types of decision models such as decision trees, Markov chains, and optimization models.
3. Apply decision models to solve business problems and make informed decisions.

Chapter
09

**DATA
MINING**

VS

**DATA
ANALYSIS**

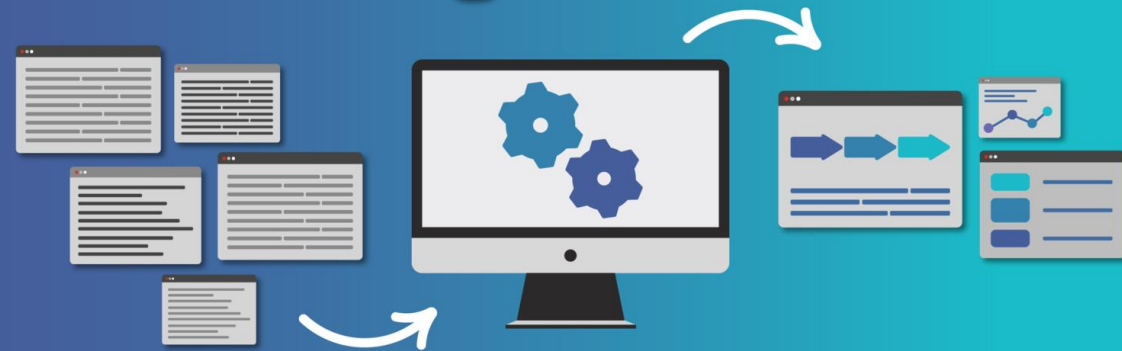
Chapter
09

Data Analysis via Data Mining

1. Understand the concept of data mining and its role in extracting useful information from data.
2. Learn various data mining techniques such as classification, clustering, association rule mining, and anomaly detection.
3. Apply data mining methods to analyze and interpret complex datasets.

Chapter
10

Data Mining



Business Intelligence

Chapter
10

Data Mining

- 1.- Understand the goals and challenges of data mining.
- 2.- Learn about different data mining techniques and algorithms.
- 3.- Apply data mining methods to solve real-world problems and extract valuable insights from data.



Thank You