Study Notes

■ Key Concepts

- **Data Mining (DM)**: Process of extracting **knowledge** from large amounts of data. ■
- **DM (Alt.)**: Searching raw data to find **patterns** & extract useful information. ■
- **DM Goal**: Discover hidden patterns & relationships for informed decisions or predictions. ■

■ Important Points

- DM uses various **statistical & computational techniques**. ■■
- Handles **structured, semi-structured, & unstructured data**. ■
- Data sources include databases & data warehouses. ■
- Techniques mentioned: classification & regression (for predictions). ■

■ Quick Facts

- Core idea: turn raw data into actionable knowledge. ■
- Focus is on finding what's *hidden* in the data. ■■
- Ultimate aim: make better choices or foresee outcomes. ■

■ Memory Tips

- **DM = KFLA**: **K**nowledge **F**rom **L**arge **A**mounts of Data.
- **DM Goal = HIP**: **H**idden **I**nformation for **P**redictions.

■ Reference Images

Image 1

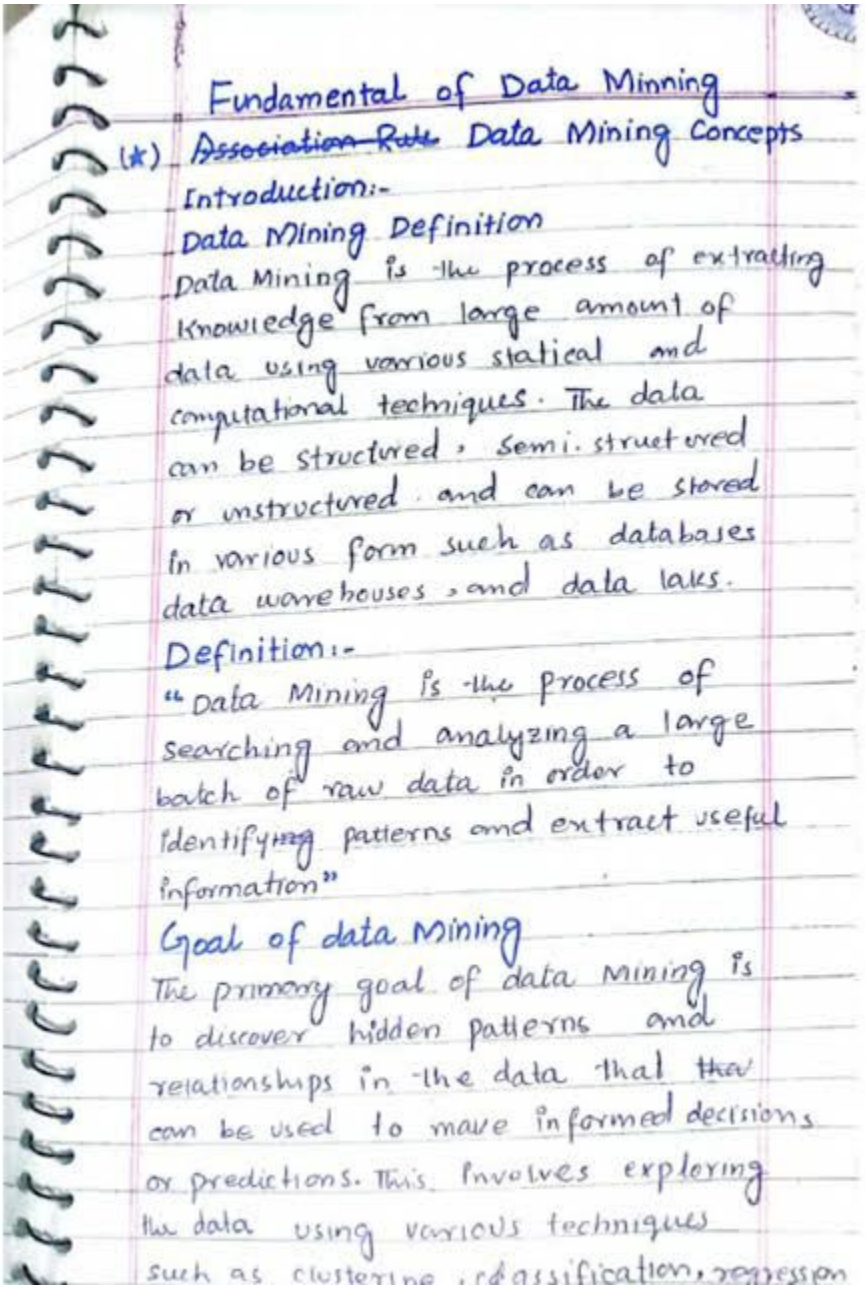

Image 2

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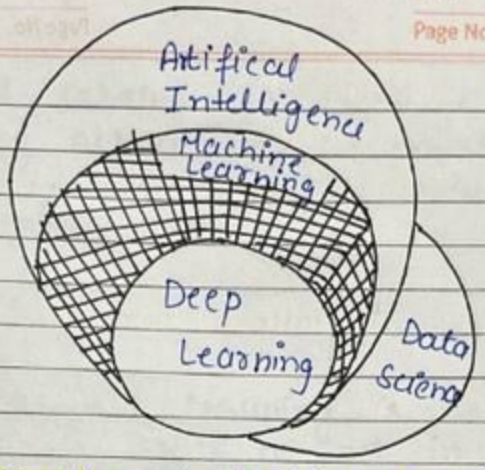


Classification of Machine Learning

Machine learning implementations are classification into four major categories, depending on the nature of the learning "signal" or "response" available to a learning system which are as follows:

A. Supervised learning:

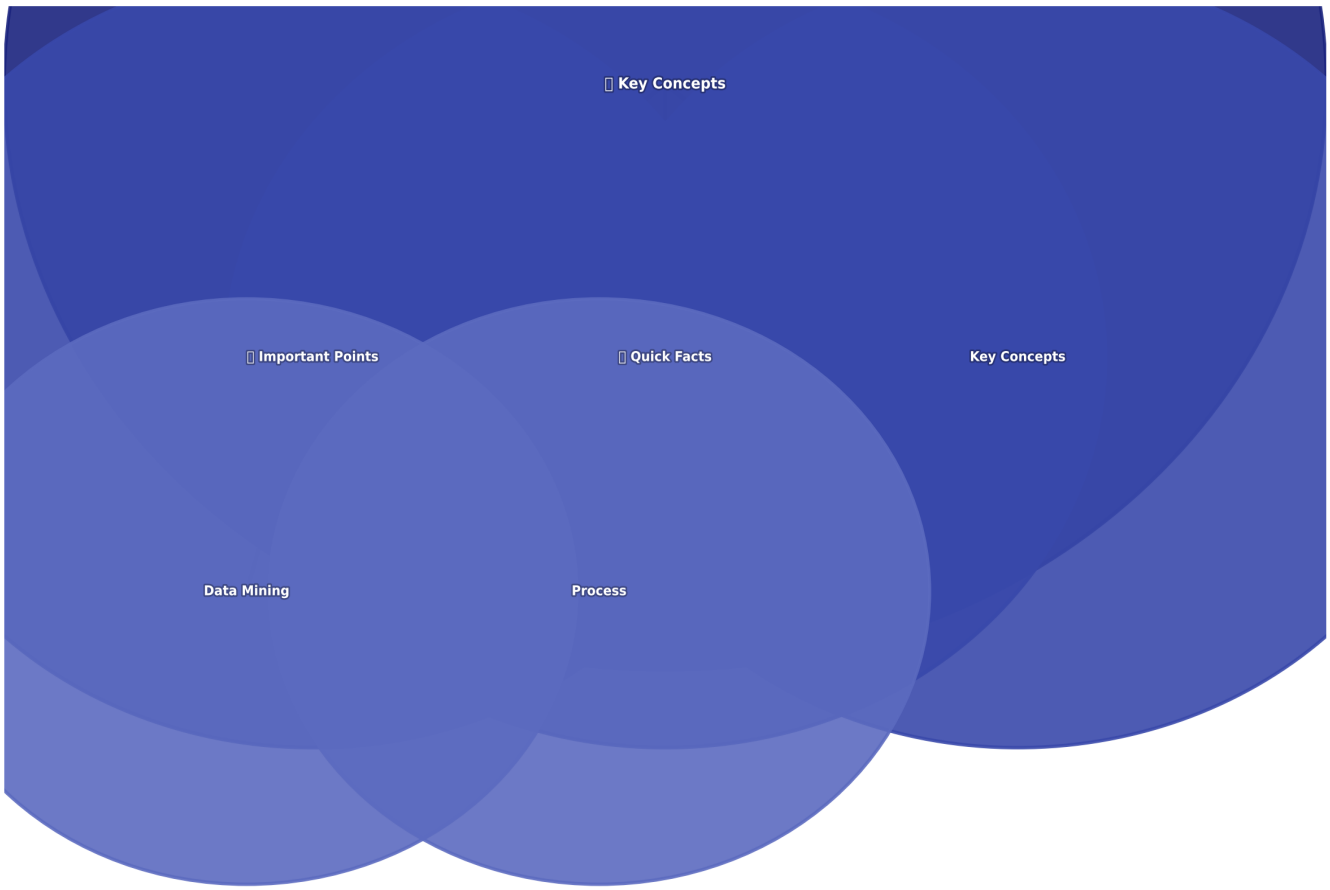
Supervised learning is the machine learning task of learning a function that maps an input to an output based on example input-output pairs. The given data is labeled. Both classification and regression problems are supervised learning problems.

B. Unsupervised learning:

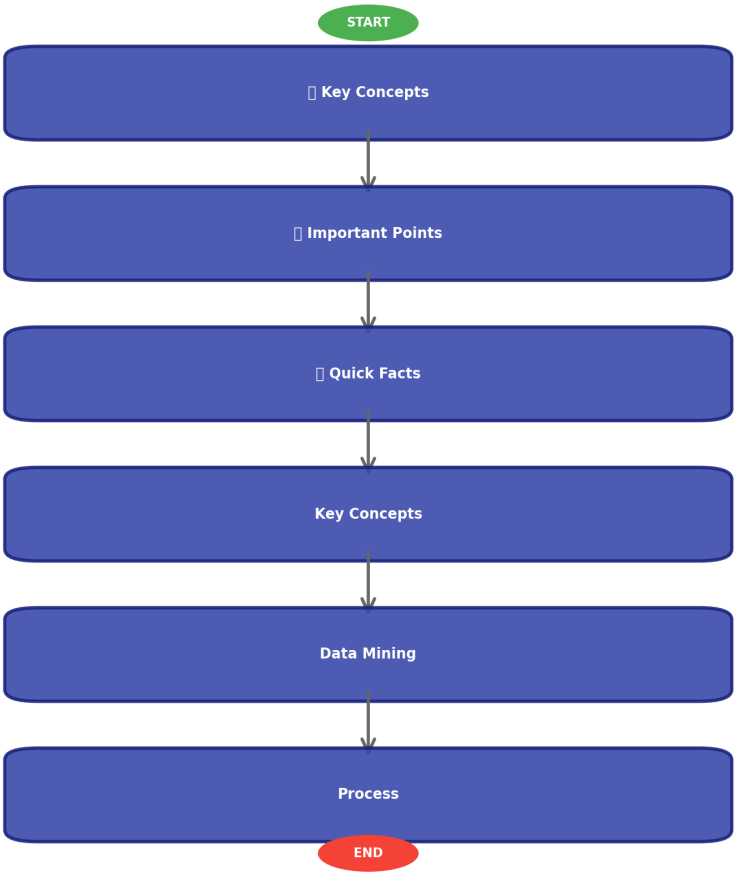
Unsupervised learning is a type of machine learning algorithm used to draw inferences from datasets consisting of input data

Visual Diagrams

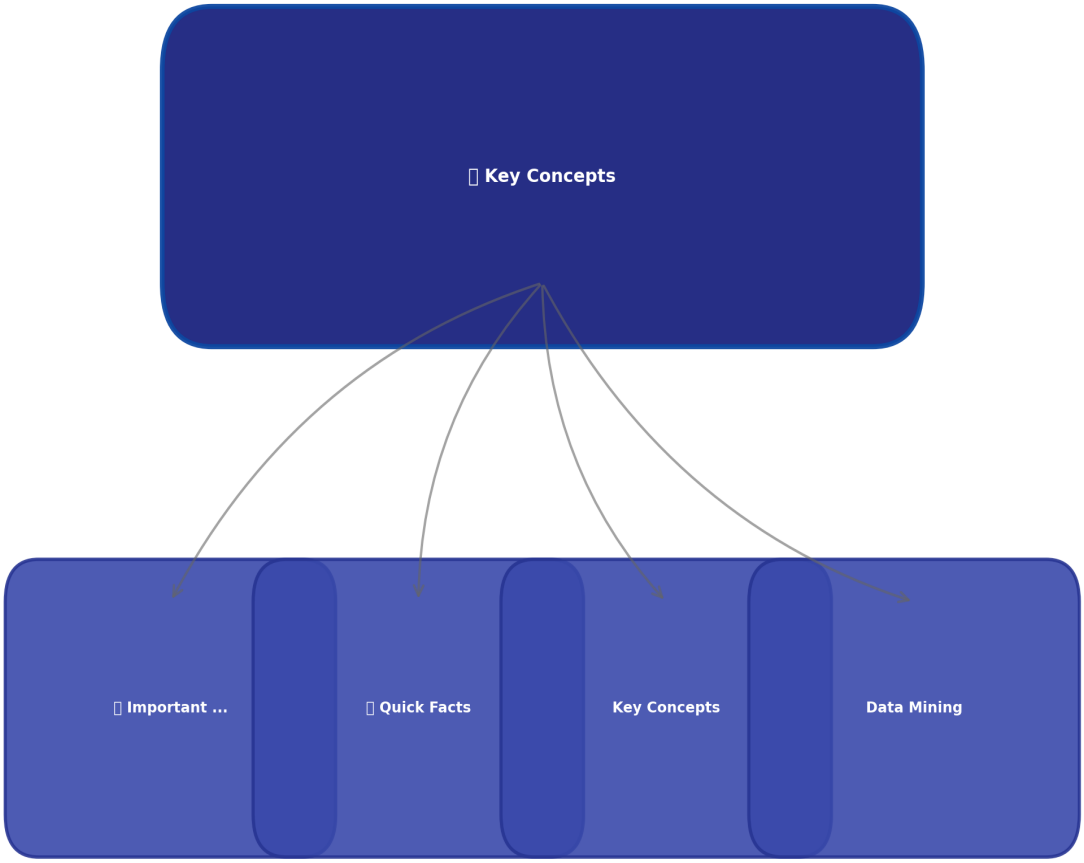
Concept Mind Map



Process Flowchart



Concept Hierarchy


Key Concepts
Important ...
Quick Facts
Key Concepts
Data Mining