## **Different Goals of Data Mining**

Data mining deals with the kind of data to be mined, there are two categories of functions involved are Descriptive and Classification and Prediction. There are many kinds of data mining goals, let us explain all the goals according to different categories.

**The high level primary goals of data mining are as follow:**

* **The descriptive** function deals with the general properties of data in the database such as Class Description, Frequent Patterns, Associations, Correlations and Clusters as well.
* **Classification** is that process for finding a model that describes the classes and concepts of data. This model used to predict the class of objects whose label is unknown. The derived model is based on the analysis of sets of training data with forms such as Classification rules; decision Trees, neural networks and many more.
* **Prediction** is used to predict missing and unavailable numerical data values rather than class labels during data mining process. For prediction regression Analysis is used. Prediction can also be used for the identification of trends based on available data in database.  
  In context of Knowledge Discovery process, the description tends to be more sophisticated than prediction. This is in related to pattern recognition and machine learning tasks where prediction is the primary goal of the Knowledge discovery process.

**The goals related to prediction and description is achieved by the following primary data mining goals:**

* **Prediction**: Determine how certain attributes will behave in the future.
* **Identification:** Identify patterns in data.
* **Classification:** is function to classify the data items into several predefined classes.
* **Optimization:** Optimize the use of limited resources such as time, space, money or materials.
* **Regression:** is that function to map data items into real valued prediction variable.
* **Clustering:** is a descriptive task to identify a finite set of clusters to describe the data. The probability density estimation consists of techniques for estimating, from data and performs joint multi-variate probability density function of all variables in the database.
* **Summarization:** is a set of methods for finding a description for a subset of data in database.
* **Dependency:** Modeling is the method of finding a model which describes significant dependencies between variables, such as structural level which specifies the variables that are locally dependent on each other. Other one is quantitative level which specifies the strengths of the dependencies.

**According to styles of data mining, predefined goals are as follows:**

* **Directed data mining:** it’s a top down approach, used when user knows what they are looking for want to predict. It’s a predictive model used to rank the outcomes of future by estimating score of each outcome. This model emerges like black box about the predictions. The main goal is to build a model to apply past outcomes for future predictions.
* **Undirected data mining:** it’s a bottom up approach that finds patterns in data that used to differentiate whether patterns are important or not that are basically used during data exploration.

**The other data mining goals are as follows:**

* **Classification:** data mining system performs how to classify the data by using classification rules such as classification performed in customer database used in bank.  
  The question arises that is a new customer applying for loan or not?  
  And classification rule applied here is: if STATUS = married and INCOME > 10000  
  Then INVESTMENT\_TYPE = good
* **Association:** These rules associate one attribute to another follows set oriented methods for discovering proper rules such as supermarket database. It contains 62% of records which contains items A,B and C with 62 is confidence factor.
* **Sequence:** the pattern functions analyze the records and delete frequently occurring patterns such as in retailer database. It can be used to evaluate set of purchases that frequently proceeds.  
  In data mining various techniques are used for analysis of data, finding patterns and set the regularities in data, identifying underlying rules and features of data. Mining extracts patterns that are not previously identified just to perform mining analogy. In this huge volume of data are explored in an attempt to find patterns , low materials or data are sifted to find new value.