Give examples of each data mining functionality, using a real-life

Define each of the following data mining functionalities: characterization, discrimination, association and correlation analysis, classification, regression, clustering, and outlier analysis. Give examples of each data mining functionality, using a real-life database that you are familiar with

Data mining functionalities are used to define the types of patterns that will be discovered during data mining jobs. Descriptive mining tasks describe the general characteristics of the database's data. In order to produce predictions, predictive mining activities make inferences about existing data. There are seven data mining features available.

Characterisation is a technique for transforming raw data into valuable information. Characterization effectively creates condensed representations of whatever data that is obscured.

Data discrimination, also known as algorithmic discrimination, is a bias that emerges when predetermined data kinds or data sources are treated differently than others, either purposefully or unintentionally.

Association and correlation analysis: Finding interesting associations in huge datasets is the goal of association analysis. There are two types of interesting relationships: frequent item sets and association rules. A frequent item set is a group of objects that appear frequently together.
Correlation analysis investigates the relationship between two or more variables and draws conclusions regarding its strength. Technically, association denotes any relationship between two variables, whereas correlation denotes just a linear relationship.

Classification: A data mining function that allocates objects in a collection to specified categories or classes is known as classification. Classification's purpose is to correctly anticipate the target class for each case in the data. A classification task begins with a data collection that contains known class assignments.

Regression is a data mining approach for predicting numeric values in a given data collection. Regression can be used to predict the cost of a product or service, as well as other variables.

Clustering is an unsupervised Machine Learning-based Algorithm that divides a set of data points into clusters, allowing the objects to be grouped together. The data in each of these subsets is comparable, and these subsets are referred to as clusters.

Outlier analysis: A database may contain data objects that do not conform to the data's overall behaviour or model. Outliers are data objects that are out of the ordinary. Outliers are typically discarded as noise or exceptions by most data mining algorithms. Outlier mining is the process of analysing outlier data.

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characterization: Examples include pie charts, bar charts, curves, multidimensional data cubes, and multidimensional tables, including crosstabs.

discrimination: When an Internet service provider (ISP) prohibits peer-to-peer (P2P) file sharing at a university, for example, the ISP may claim that its measures are preventing music and software piracy. BitTorrent is an example of a service with many acceptable uses that is frequently prohibited by colleges for the professed purpose of preventing piracy.

association and correlation analysis:
The relationship between diapers and beers is an example of association rule mining. Men who go to the store to buy diapers are also likely to buy beer, according to the example, which appears to be fake. This is an example of data that would point to that: A supermarket handles 200,000 transactions per day.
Example of correlation analysis
An increase in one variable leads to an increase in the other variable and vice versa. For example, spending more time on a treadmill burns more calories. For example, spending more time on a treadmill burns more calories.

classification: If the patients are grouped on the basis of their known medical data and treatment outcome, then it is considered as classification. For example: If a classification model is used to predict the treatment outcome for a new patient, then it is prediction.

regression: Given a dataset, regression is a data mining approach for predicting a range of numeric values (also known as continuous values). Regression can be used, for example, to forecast the cost of a product or service based on other variables.

Clustering: examples of clustering algorithms in action.
How to Spot Fake News Fake news is not a new phenomenon, but it is growing more prevalent. ...
Marketing and Sales, Spam filter.
Network traffic classification
Detecting criminal or fraudulent activities.

Outlier analysis: Outliers are nothing but data points or observations that fall outside of an expected distribution or pattern. For example, if we were to approximate the data with a Poisson distribution, then the outliers are the observations that do not appear to follow the pattern of a Poisson distribution.