An organization wanted to mine association rules of frequently bought items from its stores and suggest some recommendations to its customers.

As a data scientist, you are required to recognize patterns from the available data and evaluate efficacy of methods to obtain patterns. Your activities should include - performing various activities pertaining to the data such as, preparing the dataset for analysis; investigating the relationships in the data set with visualization; identify frequent patterns; formulate association rules and evaluate quality of rules.

Demonstrate KDD process with following activities:

* Problem statement
* Perform exploratory data analysis
* Preprocess the data. Identify relevant & irrelevant attributes for the problem.
* Propose parameters such as support, confidence etc.
* Discover frequent patterns
* Iterate previous steps by varying parameters
* Formulate association rules
* Compare association rules
* Briefly explain importance of discovered rules

Following are some points for you to take note of, while doing the assignment:

* The data in some of the rows in the data set may be noisy, sparse.
* State all your assumptions clearly
* Provide clear explanations to explain your stand