

Task 1

a) **Anomaly Detection**

Hidden patterns in energy usage of the customers of an electricity company can be found by using the Anomaly detection technique. This is applied by checking the usual usage among users, and if whether any anomaly or significant changes are made, which shows the different usage patterns.

b) **Regression**

The default of a loan of an individual could be predicted using the regression technique, by which we could see his/her previous transactions or loans, banking statements and cash flow, whether they have a smooth background, or if they have loans that appear to be problematic.

c) **Forecasting**

In guessing the rainfall over the coming month, we would see the rainfall records on the previous month, also weather conditions and climate situations, before we could guess. This is an implementation of the forecasting technique.

d) **Clustering**

Cancer is still considered to be a complicated disease and further research is still needed, making the characteristics of tumour to be hard to identify and may sometimes be unreliable. Therefore, grouping with classifying is impossible and clustering is needed.