**Data Set: Contraceptive Method Choice**

**Number of Instances:** 1473

**Number of Attributes:** 10

The problem is to predict the current contraceptive method choice (no use, long-term methods, or short-term methods) of a woman based on her demographic and socio-economic characteristics.

Did some basic description about the data i.e., value counts of each variables?

Normalization creates scalar object and creates columns in to 1 or 0

* + **Logistic regression**

**multi-layer neural network model**

Contraceptive\_method\_used is categorical variable is target label to predict

pre-processing refers to the transformations applied to your data

Here, I have 3 categories in target variable so, I choose Multinomial Logistic Regression

To find the accuracy.

Created confusion matrix in the form of heatmap

Confusion matrix is to find the performance of the algorithm

True positive is 88 and predicted

False positives and false negatives are for wrong predictions

Using Neural Network model, we got around 57% of accuracy for the data

In neural network models add different number of layers and nodes and see the accuracy.

**Precision**: Example labelled as positive is indeed positive

**Recall:** Indicates the class is correctly recognized

**F-measure:** precision and recall

**Accuracy:** How accurate the model is