**Data -** **parity5\_plus\_5**

**Exploratory**

* My data set has 10 feature column and one target column.
* All my datas are categorical data
* Data is splitted into training and test data (20% as test data)

**Logistic Regression:**

* Logistic Regression Model is trained on the training data set, and applied on the test data
* Now the accuracy of the model is found to be-> **44.8%,** which is very low
* Then the confusion matrix is plotted, wherein ***False positive*** is **12.44%** and **False Negative** is **42.66 %**

**Neural Network -1 (2 hidden layers of size 10 & 50 respectively)**

* Model is trained on the training data set, and applied on the test data
* Now the accuracy of the model is found to be-> 98.22%
* Then the confusion matrix is plotted, wherein ***False positive*** is **0.4%** and ***False Negative*** is **1.33%**

**Neural Network -1 (3 hidden layers of size 5, 20 & 30 respectively)**

* Model is trained on the training data set, and applied on the test data
* Now the accuracy of the model is found to be-> 96%
* Then the confusion matrix is plotted, wherein ***False positive*** is **4%** and ***False Negative*** is **0 %**

**Neural Network -3 (7 hidden layers of size 5, 10, 30 ,40, 50, 60 & 70 respectively)**

* Model is trained on the training data set, and applied on the test data
* Now the accuracy of the model is found to be-> **100%**
* Then the confusion matrix is plotted, wherein ***False positive*** is **0%** and ***False Negative*** is **0%**

**Comparison:**

While comparing the three neural networks, NN which has 7 layers was accurate than the less layer NN.