**Report on Knn Classifier on Artificial data set**

As we know knn is a classification algorithm used to classify the data by training the algorithm. With the python packages, we generated an artificial data set, a combination of float and integers. The data points are classified k=3 with three canters labeled as 0,1,2. The data is split into 80:20 as train and test. And applied Knn algorithm to the training data. In this data set, no other parameters are involved in training data except the n\_samples as 320. Then after training the algorithm the accuracy of the model on trained data labels is 98%. Then validate the model on test data predicted labels which also gives the same accuracy. It states that the model is working well. Here the accuracy of both sets are same. We cannot say our model is very good. But we can say the model is not overfitting because the values are comparable. The classification report also gives a clear understanding of the performance of the model. The accuracy of the model is effecting by the increasing the sample size and the value of k. If the value is increasing accuracy is also increasing which means the model is not good to classify. In the iris data set, we can see accuracy is 96% for training data and 97% for test data which are near to each other. And also in our artificial data set if the size of the data set decreases the accuracy increases to 100% which is also not a good model. At a value of k=3 or three centers the accuracy value changed to from 100 to 98. By this, I can say the model is good at classifying labels.