**Test Question**

You are given 5 datasets, each containing hourly sensor data (00h to 23h) from a manufacturing tool (A, B, C, D, E). Each csv file contains data for one tool, inside the csv file one row represents one time series sample. The objective is to build a model to determine any given time series sample is from which tool.

Please submit your source code along with a documentation explaining the techniques used. Summarize your thought and analytics under following sections:

* Any pre-analytics steps and your understanding of data before you perform the analytics
* Your choice of analytical algorithms, various steps taken during analytics, any comparisons between other algorithms and your understanding of how this model is performing
* Your final choice of model and summary