APPLYING ONE HOT ENCODING

Team ID	**PNT2022TMID50703**
Project Name	**A Novel Method for Handwritten Digit Recognition System**

Applying one hot encoding:

- Y_train variable contains Labels and representing the images containing in X_train.
- As these numbers are considered as numerical or continuous data, but with respect to this project these Numbers are representing a set of class so these are to be represented as categorical data, and we need to binaries these categorical data that's why we are applying one hot encoding for y_train set.

```
number_of_classes= 10
y_train = np_utils.to_categorical(y_train,number_of_classes)
y_test = np_utils.to_categorical(y_test,number_of_classes)
```

- One hot encoding is a process by which categorical variables are converted into a form that could be provided to ML algorithms to do a better job in prediction.
- One-Hot Encoding is convert to the values into 0's and 1's.

```
y_train[0]
array([0., 0., 0., 0., 0., 1., 0., 0., 0., 0.], dtype=float32)
```

- The new label is printed in the form of 0’s and 1’s and is of type float.