### 21BDS0340

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# Deep Learning Lab

## Assignment – III

#### **Procedure:**

- 1. Load the MNIST dataset
- 2. Flatten the data to feed to a neural network
- 3. Make the labels into categorical data from sparse categorical data
- 4. Create helper methods for the history and test accuracy measures
- 5. Create the base model 1
- 6. View the history and accuracies
- 7. Add a kernel initialization to the model 2
- 8. View the history and accuracies
- 9. Change the activation from sigmoid to relu for the model 3
- 10. View the history and accuracies
- 11. Change the optimizer to adam for the model 4
- 12. View the history and accuracies
- 13. Add batch normalization between the hidden dense layers for the model 5
- 14. View the history and accuracies
- 15. Change the batch normalization to dropout layers for the model 6
- 16. View the history and accuracies

## **Interactive Python Notebook on the following pages:**