# LAB 10 : Restricted Boltzmann Machine

Name :

Roll Number :

References :

1. MNIST Dataset : http://yann.lecun.com/exdb/mnist/
2. Movie Lens Dataset : https://grouplens.org/datasets/movielens/
3. https://towardsdatascience.com/restricted-boltzmann-machine-how-to-create-a-recommendation-system-for-movie-review-45599a406deb
4. https://towardsdatascience.com/restricted-boltzmann-machine-as-a-recommendation-system-for-movie-review-part-2-9a6cab91d85b
5. https://github.com/echen/restricted-boltzmann-machines

## **Problem 1** : MNIST Digit Classification using RBM + Logistic Regression

1. Consider MNIST Digit Dataset
2. Use the Bernoulli RBM API from Sci-kit learn package and create a pipeline of RBM network and logistic regression to classify the digits

## Write down the Objectives, Hypothesis and Experimental description for the above problem

Double-click (or enter) to edit

## Programming :

Please write a program to demonstrate the same

```
1
```

## Inferences and Conclusion : State all the key observations and conclusion

Double-click (or enter) to edit

# **Problem 2** : RBM as a Recommendation System for Movie Review on Movie Lens Dataset

1. Use the Movie Lens Dataset, Split it into train-test set. Convert the ratings to Binary (The task is to predict if the user likes a movie or not)
2. Build a RBM network, train the model and test it on the test set

## Write down the Objectives, Hypothesis and Experimental description for the above problem

Double-click (or enter) to edit

## Programming :

Please write a program to demonstrate the same

```
1
```

## Inferences and Conclusion : State all the key observations and conclusion

Double-click (or enter) to edit