Homework 7 (Due Oct 23)

1) Modify your Naïve Bayes Classifier so it would implement Bayesian Belief Network, in which for pixels 2 to 784 the probability of having that pixel occupied/not occupied given that the previous pixel in the long vector is occupied/not occupied is estimated from the training data. Use the same training and testing data you used for Naïve Bayes Classifier to compare the accuracy.

2) Implement EM algorithm to estimate 2 means μ_1 and μ_2 for normal distributions with $\sigma = 1$. Assume that an equal number of points belongs to each distribution. Use the file with your last name among the attached data files. Include the code and the results in your report.