

Question 14.1

The breast cancer data set `breast-cancer-wisconsin.data.txt` from <http://archive.ics.uci.edu/ml/machine-learning-databases/breast-cancer-wisconsin/> (description at <http://archive.ics.uci.edu/ml/datasets/Breast+Cancer+Wisconsin+%28Original%29>) has missing values.

1. Use the mean/mode imputation method to impute values for the missing data.
2. Use regression to impute values for the missing data.
3. Use regression with perturbation to impute values for the missing data.
4. (Optional) Compare the results and quality of classification models (e.g., SVM, KNN) build using
 - (1) the data sets from questions 1,2,3;
 - (2) the data that remains after data points with missing values are removed; and
 - (3) the data set when a binary variable is introduced to indicate missing values.