

# Module 7: Supervised Learning-1

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## Case Study – 2

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### Objective:

- Learn to handle missing values
- Learn to fit a decision tree and compare its accuracy with a random forest classifier.

### Questions:

1. Let's attempt to predict the survival of a horse based on various observed medical conditions. Load the data from 'horses.csv' and observe whether it contains missing values.  
[Hint: Pandas dataframe has a method isnull]
2. This dataset contains many categorical features, replace them with label encoding.  
[Hint: Refer to get\_dummies methods in pandas dataframe or Label encoder in scikit-learn]
3. Replace the missing values with the most frequent value in each column.  
[Hint: Refer to Imputer class in Scikit learn preprocessing module]
4. Fit a decision tree classifier and observe the accuracy.
5. Fit a random forest classifier and observe the accuracy.