

Run the code cell below to initialize three helper functions which you can use for training and testing the three supervised learning models you've chosen above. The functions are as follows:

- `train_classifier` - takes as input a classifier and training data and fits the classifier to the data.
- `predict_labels` - takes as input a fit classifier, features, and a target labeling and makes predictions using the F_1 score.
- `train_predict` - takes as input a classifier, and the training and testing data, and performs `train_classifier` and `predict_labels`.
 - This function will report the F_1 score for both the training and testing data separately.

```
In [6]: def train_classifier(clf, X_train, y_train):
        ''' Fits a classifier to the training data. '''

        # Start the clock, train the classifier, then stop the clock
        start = time()
        clf.fit(X_train, y_train)
        end = time()

        # Print the results
        print "Trained model in {:.4f} seconds".format(end - start)

def predict_labels(clf, features, target):
    ''' Makes predictions using a fit classifier based on F1 score. '''
```