

```

'Output':
AdaBoostClassifier(algorithm='SAMME.R', base_estimator=None,
                    learning_rate=1.0, n_estimators=50, random_state=None)

# print the feature importances
ada_boost_classifier.feature_importances_
'Output': array([0.   , 0.   , 0.58, 0.42])

# create a subset of data based on the relevant features
model = SelectFromModel(ada_boost_classifier, prefit=True)
new_data = model.transform(X)

# the irrelevant features have been removed
new_data.shape
'Output': (150, 2)

```

Resampling Methods

Resampling methods are a set of techniques that involve selecting a subset of the available dataset, training on that data subset, and using the remainder of the data to evaluate the trained model. Let's review the techniques for resampling using Scikit-learn. This section covers

- k-Fold cross-validation
- Leave-one-out cross-validation

k-Fold Cross-Validation

In k-fold cross validation, the dataset is divided into k-parts or folds. The model is trained using $k - 1$ folds and evaluated on the remaining kth fold. This process is repeated k-times so that each fold can serve as a test set. At the end of the process, k-fold averages the result and reports a mean score with a standard deviation. Scikit-learn implements K-fold CV in the module **KFold**. The module **cross_val_score** is used to evaluate the cross-validation score using the splitting strategy, which is **KFold** in this case.