Build the following decision tree models on the Titanic data:

* Unpruned tree
* Pruned tree

Report each model training error and test error. Describe whether overfitting occurs in the unpruned tree, and which model would you choose.

If we look at the training error, we can see that the pruned tree more accurately classified instances, however, the size of the tree is substantially larger with only 6 more correct predictions than the unpruned tree.

**Unpruned Tree:**

Number of Leaves : 33

Size of the tree : 61

=== Summary ===

Correctly Classified Instances 780 87.5421 %

Incorrectly Classified Instances 111 12.4579 %

Kappa statistic 0.7265

Mean absolute error 0.196

Root mean squared error 0.3104

Relative absolute error 41.4329 %

Root relative squared error 63.8358 %

Total Number of Instances 891

**Pruned Tree:**

Number of Leaves : 48

Size of the tree : 88

=== Summary ===

Correctly Classified Instances 786 88.2155 %

Incorrectly Classified Instances 105 11.7845 %

Kappa statistic 0.741

Mean absolute error 0.1832

Root mean squared error 0.3008

Relative absolute error 38.7332 %

Root relative squared error 61.8565 %

Total Number of Instances 891

