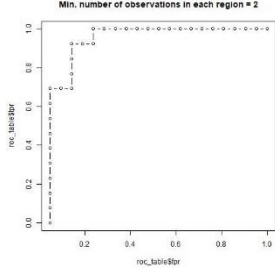
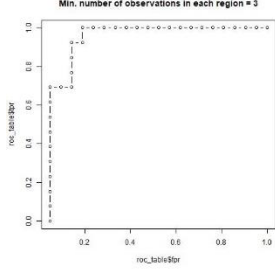
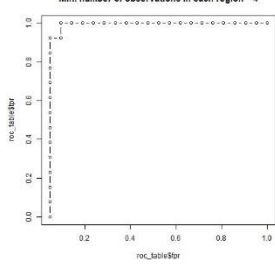
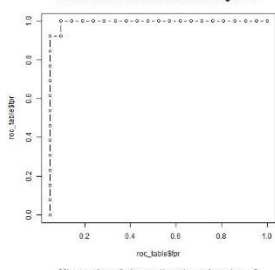
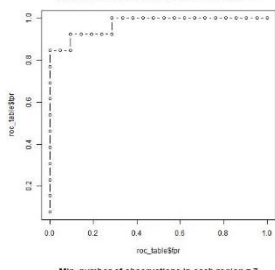
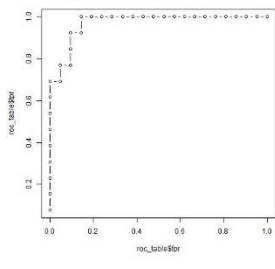
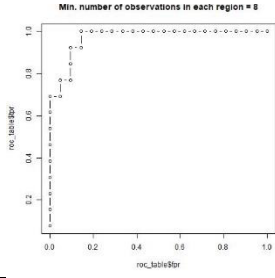


The stopping criteria was defined as minimum number of observations in each region.

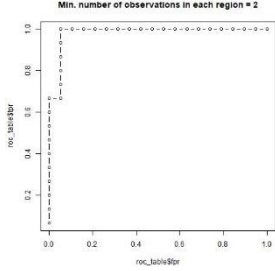
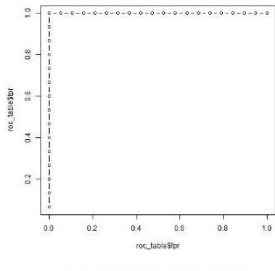
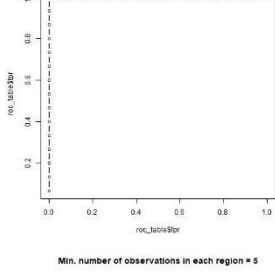
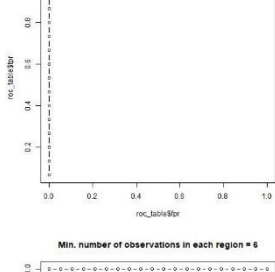
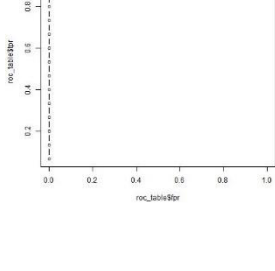
The iris dataset was partitioned into train and validation sets in the ratio 2:1. Miss-classification error and ROC 'curves' for different stopping criteria:

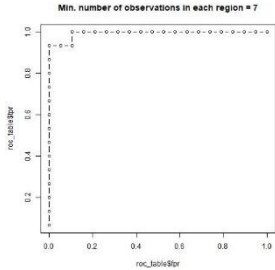
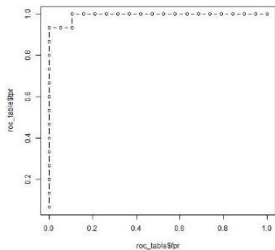
The same sample(set.seed(1)) was used to fit trees with different stopping criteria.

| Stopping criteria | Miss-classification error (t = 0.5) | ROC 'curve' |
|-------------------|-------------------------------------|---|
| 2 | 0.1470588 |  |
| 3 | 0.1470588 |  |
| 4 | 0.05882353 |  |
| 5 | 0.05882353 |  |
| 6 | 0.1764706 |  |
| 7 | 0.1764706 |  |

| | | |
|---|-----------|--|
| 8 | 0.1764706 |  <p>Min. number of observations in each region = 8</p> |
|---|-----------|--|

Using a different sample(set.seed(7)):

| Stopping criteria | Miss-classification error (t = 0.5) | ROC 'curve' |
|-------------------|-------------------------------------|---|
| 2 | 0.1176471 |  <p>Min. number of observations in each region = 2</p> |
| 3 | 0 |  <p>Min. number of observations in each region = 3</p> |
| 4 | 0.02941176 |  <p>Min. number of observations in each region = 4</p> |
| 5 | 0.02941176 |  <p>Min. number of observations in each region = 5</p> |
| 6 | 0.02941176 |  <p>Min. number of observations in each region = 6</p> |

| | | |
|---|------------|---|
| 7 | 0.08823529 |  <p>Min. number of observations in each region = 7</p> <p>The ROC curve for region 7 shows a very high true positive rate (AUC ≈ 0.98) across the range of false positive rates (0.0 to 1.0). The curve is nearly vertical, indicating excellent classifier performance.</p> |
| 8 | 0.08823529 |  <p>Min. number of observations in each region = 8</p> <p>The ROC curve for region 8 shows a very high true positive rate (AUC ≈ 0.98) across the range of false positive rates (0.0 to 1.0). The curve is nearly vertical, indicating excellent classifier performance.</p> |