

ml lab 4

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1 C4.5

IRIS:

=== Summary ===

Correctly Classified Instances	35	97.2222 %
Incorrectly Classified Instances	1	2.7778 %
Kappa statistic	0.9583	
Mean absolute error	0.0298	
Root mean squared error	0.1336	
Relative absolute error	6.7149 %	
Root relative squared error	28.3493 %	
Total Number of Instances	36	

=== Detailed Accuracy By Class ===

PRC Area	Class	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area
1.000	setosa	1.000	0.000	1.000	1.000	1.000	1.000	1.000
0.923	versicolor	1.000	0.042	0.923	1.000	0.960	0.941	0.979
0.958	virginica	0.917	0.000	1.000	0.917	0.957	0.938	0.979
Weighted Avg.		0.972	0.014	0.974	0.972	0.972	0.960	0.986
0.960								

WINE:

=== Summary ===

Correctly Classified Instances	40	93.0233 %
Incorrectly Classified Instances	3	6.9767 %
Kappa statistic	0.8945	
Mean absolute error	0.0598	
Root mean squared error	0.2116	
Relative absolute error	13.5763 %	
Root relative squared error	45.1158 %	
Total Number of Instances	43	

=== Detailed Accuracy By Class ===

PRC Area	Class	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area
0.839	1	0.929	0.069	0.867	0.929	0.897	0.845	0.947
0.881	2	0.882	0.038	0.938	0.882	0.909	0.854	0.897
1.000	3	1.000	0.000	1.000	1.000	1.000	1.000	1.000
Weighted Avg.		0.930	0.038	0.932	0.930	0.930	0.892	0.942
0.901								

GLASS:

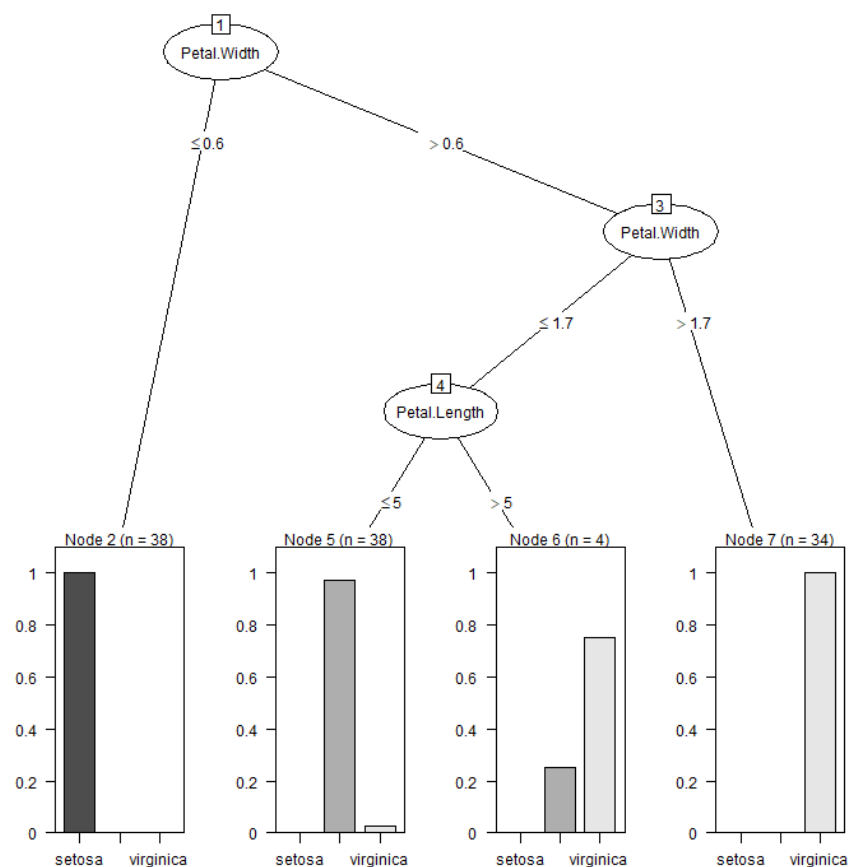
=== Summary ===

Correctly Classified Instances	30	57.6923 %
Incorrectly Classified Instances	22	42.3077 %
Kappa statistic	0.4199	
Mean absolute error	0.1482	
Root mean squared error	0.362	
Relative absolute error	59.9627 %	

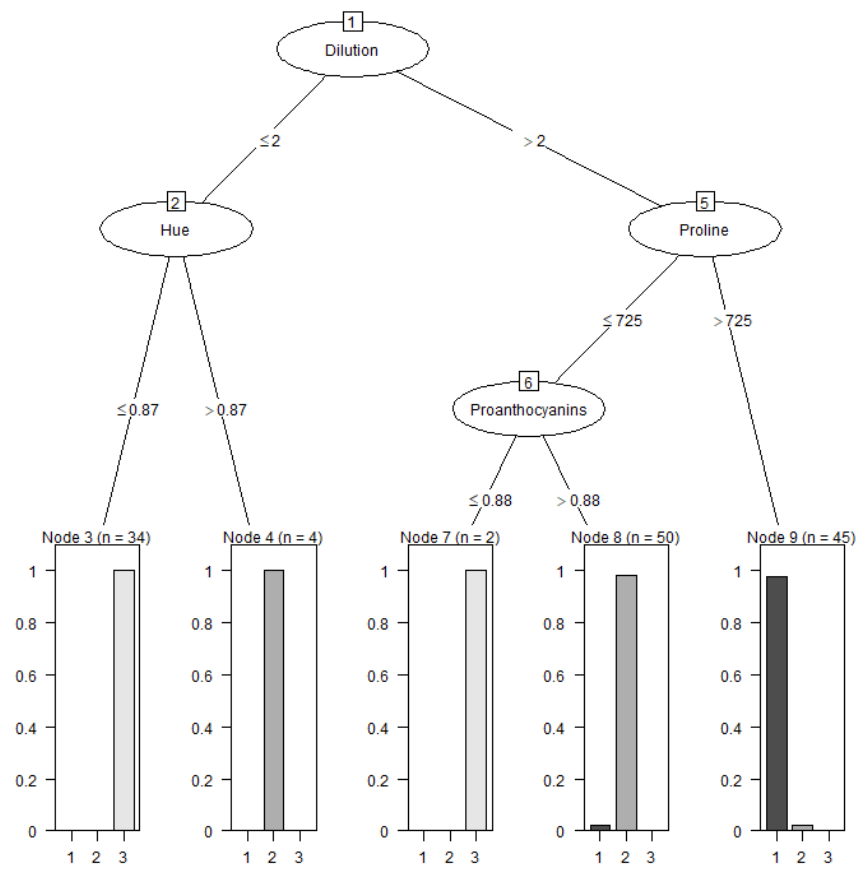
Root relative squared error				103.649 %				
Total Number of Instances				52				
=== Detailed Accuracy By Class ===								
PRC Area	Class	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area
0.521	1	0.647	0.229	0.579	0.647	0.611	0.408	0.713
0.472	2	0.421	0.273	0.471	0.421	0.444	0.152	0.589
0.108	3	0.000	0.021	0.000	0.000	0.000	-0.040	0.576
0.686	5	0.667	0.000	1.000	0.667	0.800	0.808	0.799
0.667	6	1.000	0.020	0.667	1.000	0.800	0.808	0.990
0.700	7	1.000	0.067	0.700	1.000	0.824	0.808	0.967
Weighted Avg.		0.577	0.186	0.539	0.577	0.550	0.372	0.707
0.511								

1.1 Drzewa

IRIS:

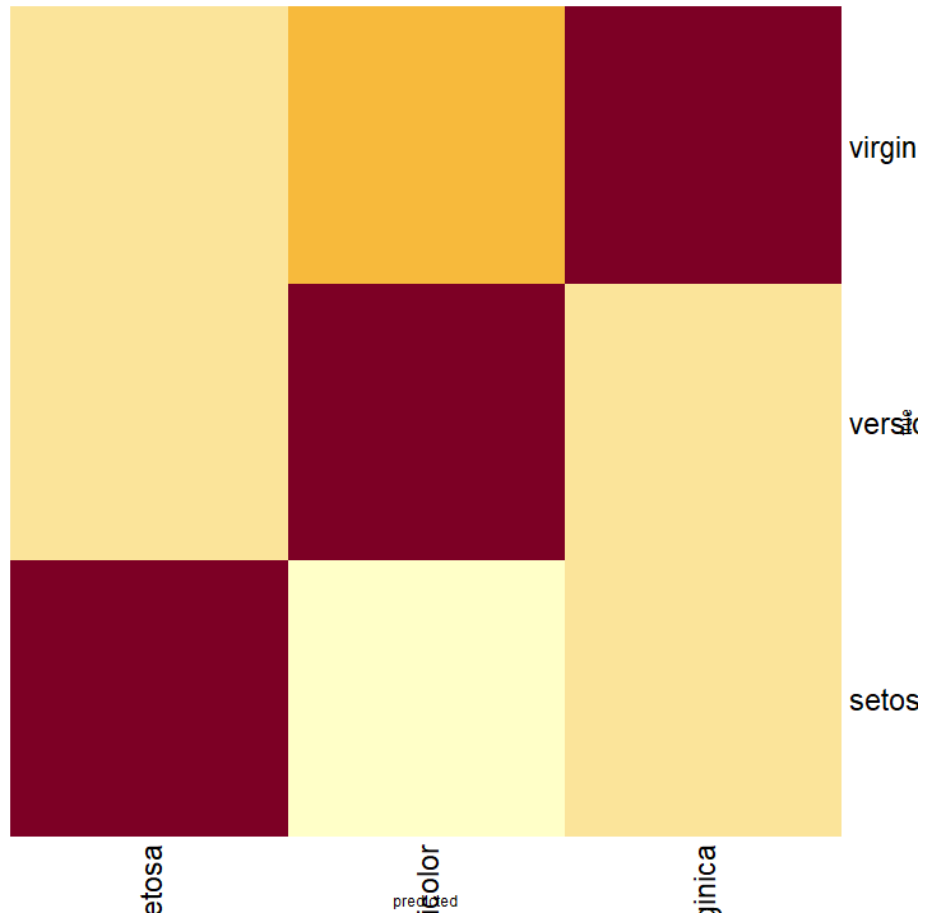


WINE:

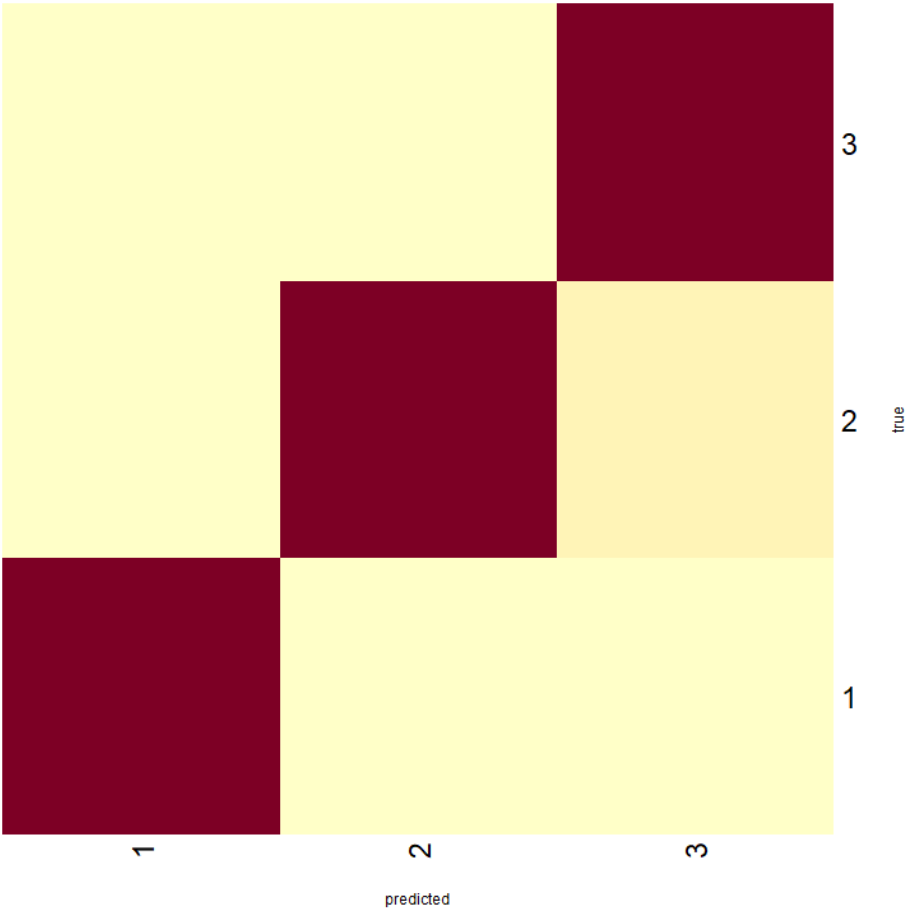


1.2 Heatmapy

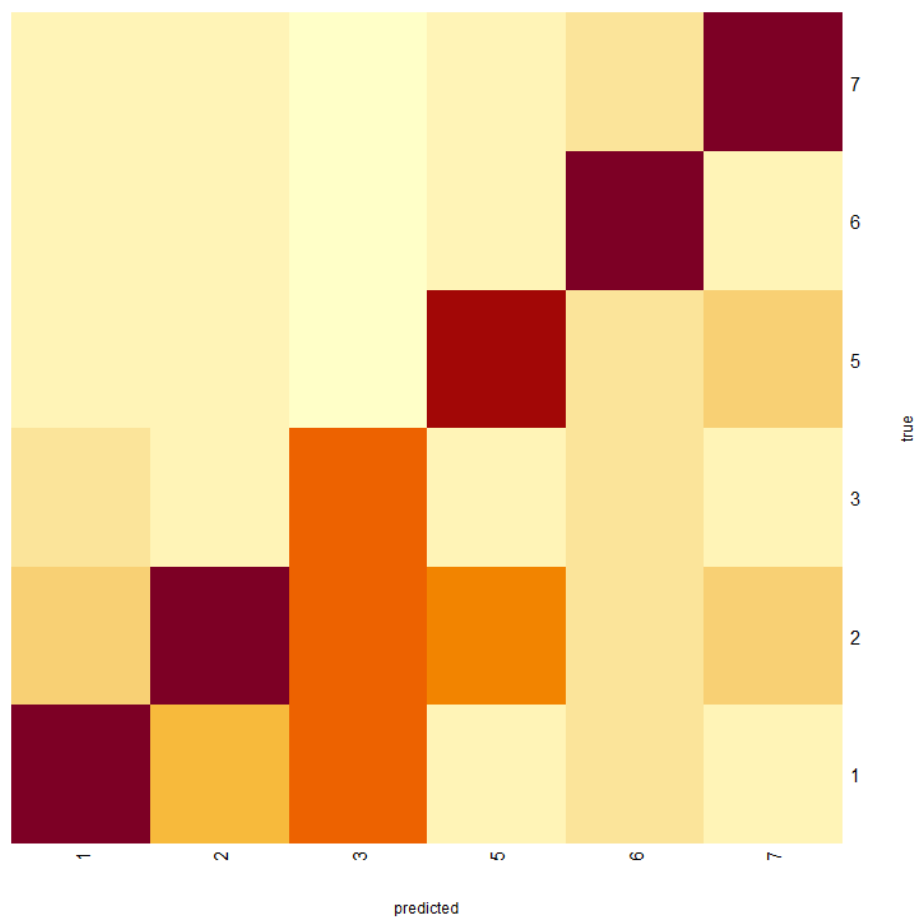
IRIS:



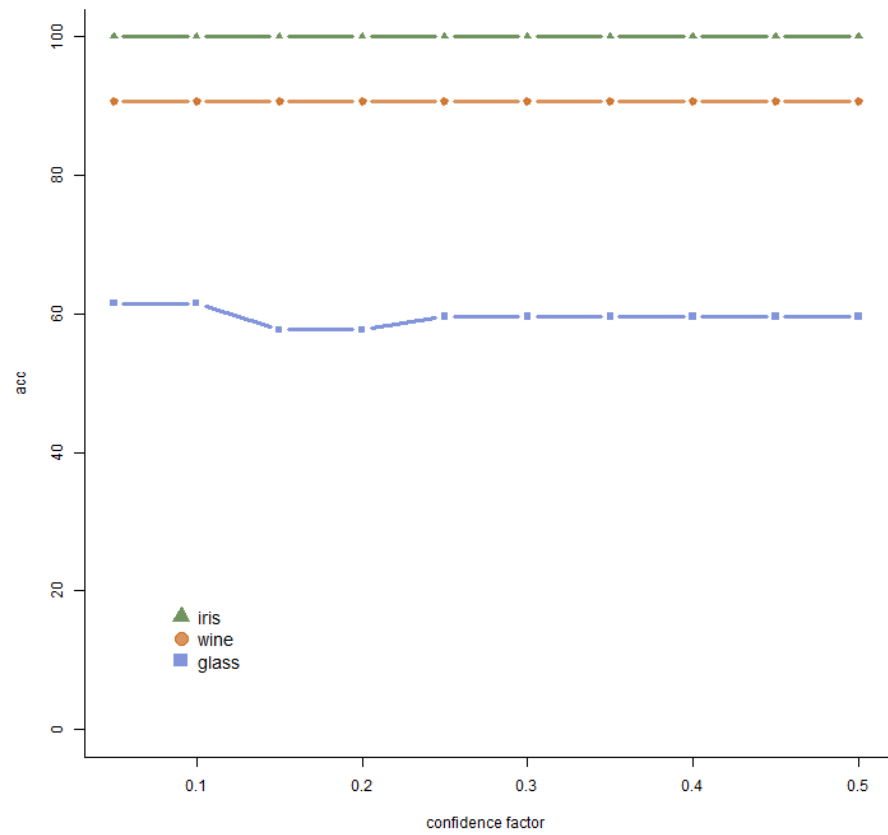
WINE:



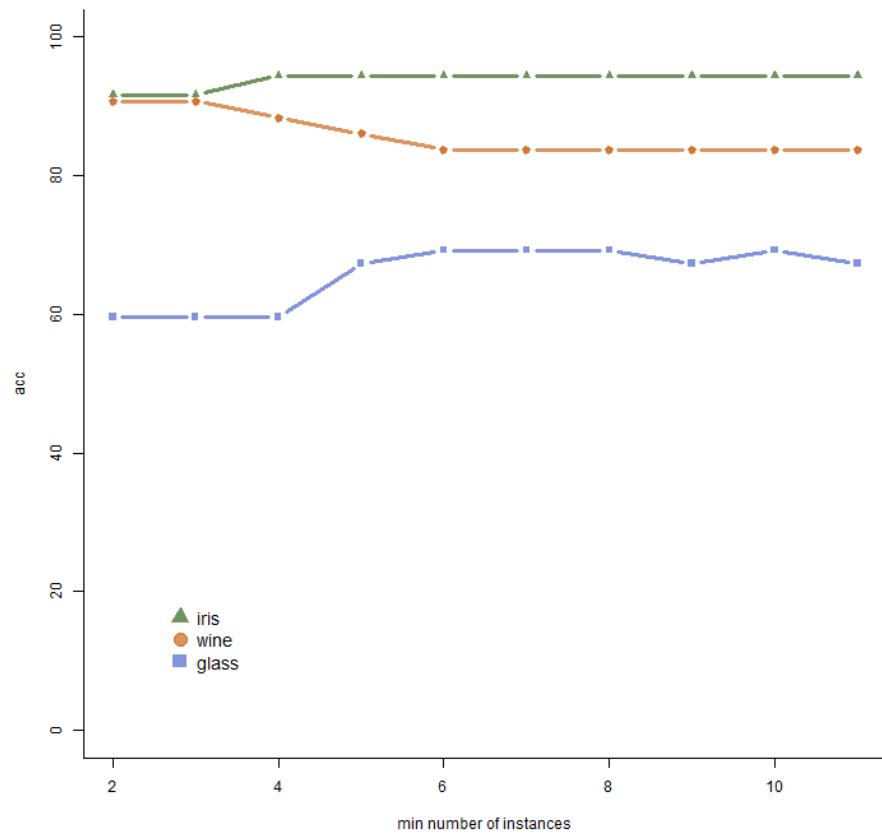
GLASS:



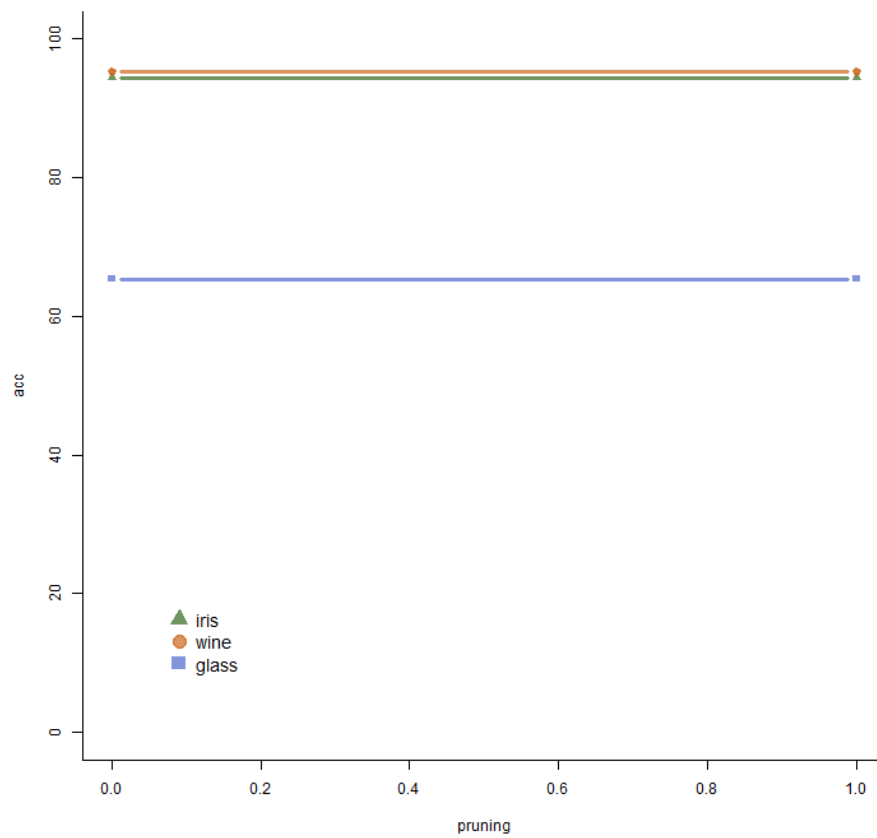
1.3 Hiperparametry



Confidence factor:



Minimum number of instances:



Pruning:

2 C5.0

IRIS:

```
Accuracy 0.9444444
Precision 1
Recall 1
F1 score 1
```

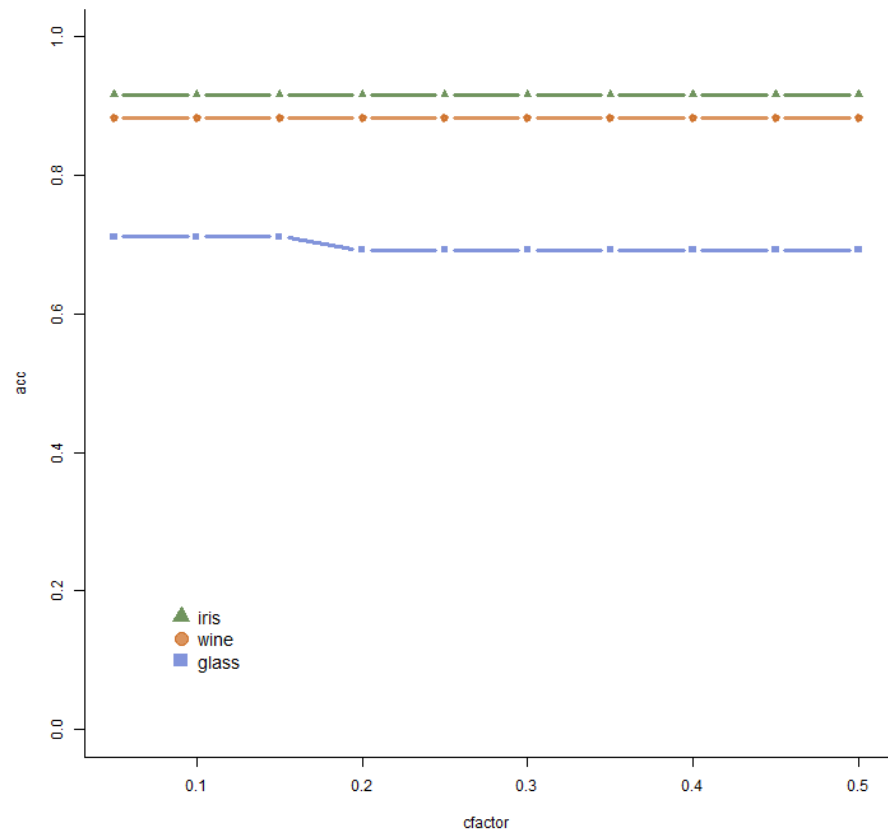
WINE:

```
Accuracy 1
Precision 1
Recall 1
F1 score 1
```

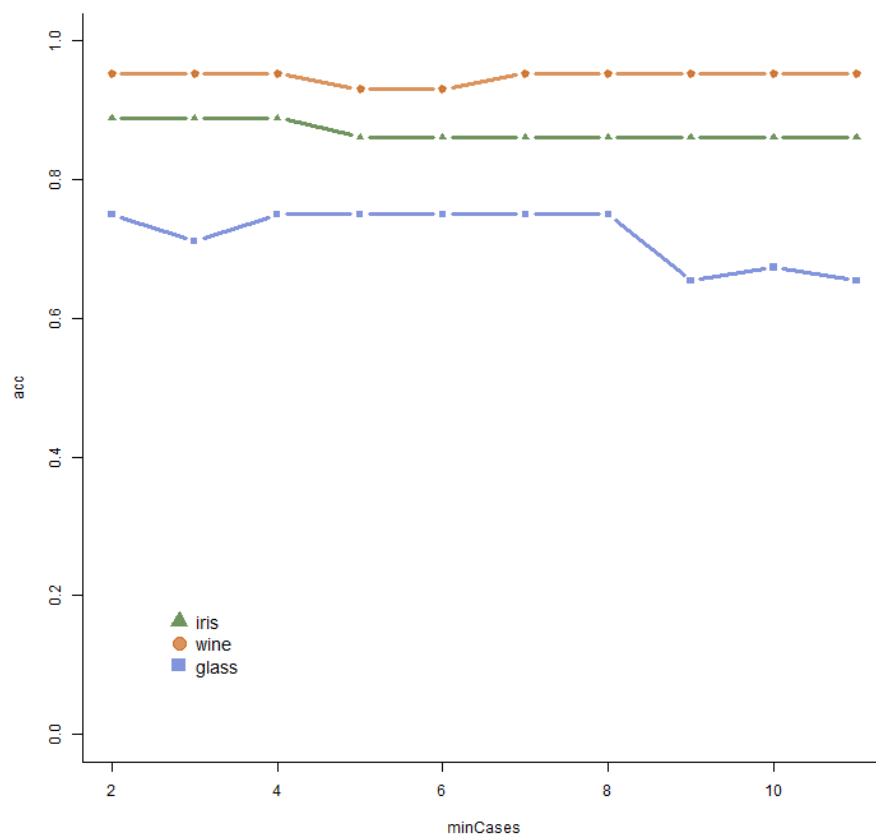
GLASS:

```
Accuracy 0.6923077
Precision 0.6875
Recall 0.6470588
F1 score 0.6666667
```

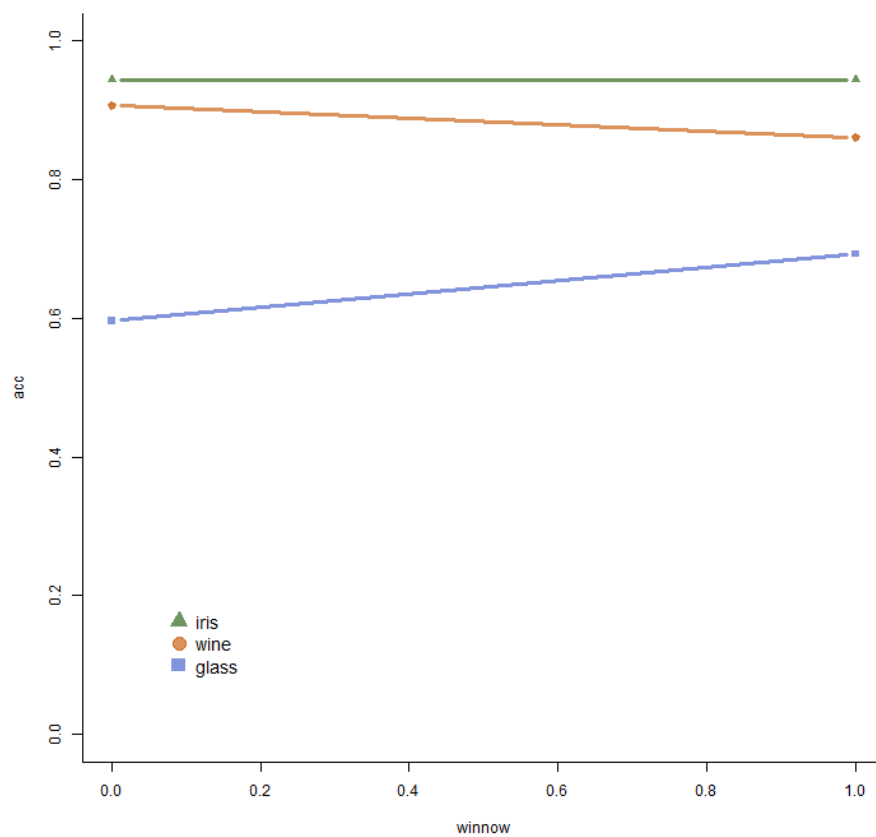
2.1 Hiperparametry



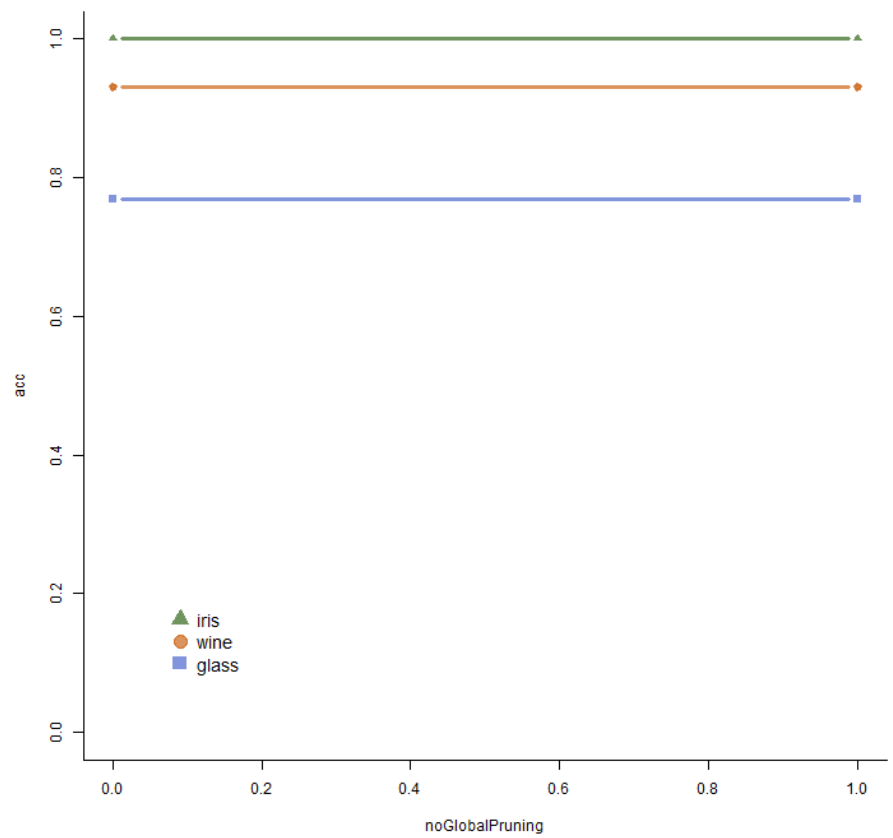
Confidence factor:



minCases:



winnow:



noGlobalPruning:

2.2 Walidacja krzyżowa (stratyfikacja)

IRIS:

```
Accuracy    0.94
Precision   1
Recall      0.98
F1 score    0.9894737
```

WINE:

```
Accuracy    0.9266667
Precision   0.9246753
Recall      0.9818182
F1 score    0.951049
```

GLASS:

```
Accuracy    0.6690568
Precision   0.675303
Recall      0.6142857
F1 score    0.6383413
```