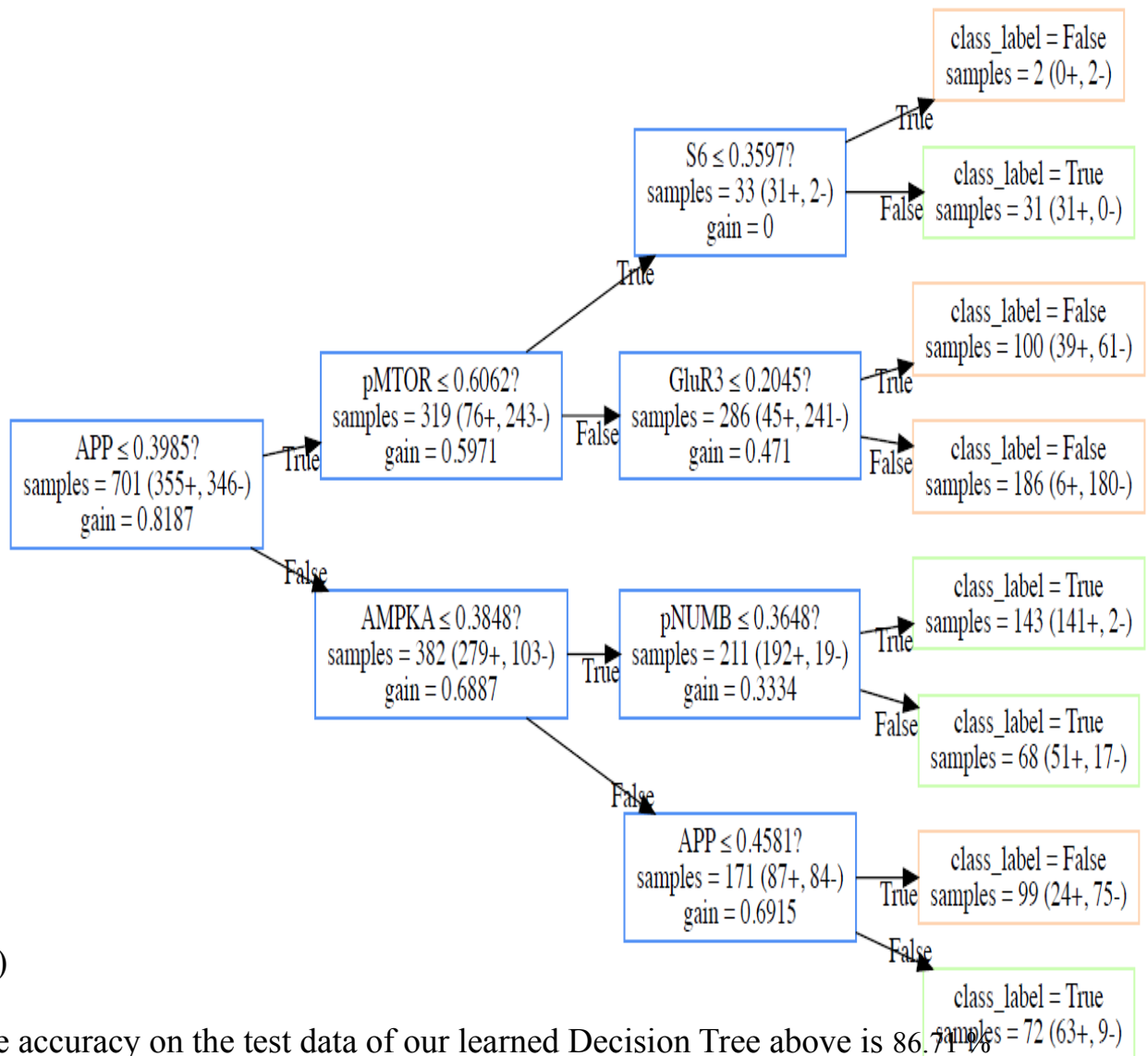


Exercise 4:

(ii)



(iii)

The accuracy on the test data of our learned Decision Tree above is 86.71%.

(iv)

In the table below you can see the genes of our Decision Tree and the corresponding number of returned scientific papers.

Gene	APP	pMTOR	AMPKA	S6	GluR3	pNUMB
Number	23100	18	8	3600	70	4

The gene APP has the highest rate of all genes of our tree and of the full screening with 23100 returned articles.

If the expression levels of APP and AMPKA are both high but nearly at the same level, then the mouse is trisomic.

If the expression levels of APP and AMPKA are both high but the level of APP is much higher as the level of AMPKA, then the mouse is healthy.

If the expression levels of APP are low and the expression levels of pMTOR are high, then the mouse is healthy.

If the expression levels of APP and pMTOR are both low but the expression level of S6 is high, then the mouse is trisomic.

If the expression levels of APP and pMTOR are both low and the expression level of S6 is also low, then the mouse is healthy.

With respect to the results of the table above our Decision Tree could be right. We need a high expression level at APP or S6 and these two genes have high response in the search on GoogleScholar.