**WEKA**

**Mean Absolute Error:** 1.5835

**Note:** The mean absolute error is an average of the absolute errors. It is a measure of difference between two continuous variables.

**Q1: What is the equation for num\_rings?**

num\_rings = 0.8607 \* sex=M, F +

10.5383 \* diameter +

10.7251 \* height +

8.9743 \* whole\_weight +

-19.769 \* shucked\_weight +

-10.6481 \* viscera\_weight +

8.7497 \* shell\_weight +

3.0551

**Note:** When sex= M or F we have to multiply by 1. Num\_rings is not affected by ‘length’ attribute and depends only on the other 8 attributes. Negative coefficients on shucked\_weight and viscera\_weight indicates that num\_rings decrease as these two values increase.

**Q2: Reopen the dataset and keep only these columns: length, diameter, whole\_weight, num\_rings. What is the equation now?**

num\_rings = -11.8042 \* length +

29.8645 \* diameter +

0.6345 \* whole\_weight +

3.412

**Note :** When length increases num\_rings decreases.

**KNIME**

**Q1: What is the linear equation? Compare to WEKA’s output. What parameters have similar coefficients?**

num\_rings = -0.8249 \* sex=I +

0.0577 \* sex= M+

-0.4583 \* length +

11.0751 \* diameter +

10.7615 \* height +

8.9754 \* whole\_weight +

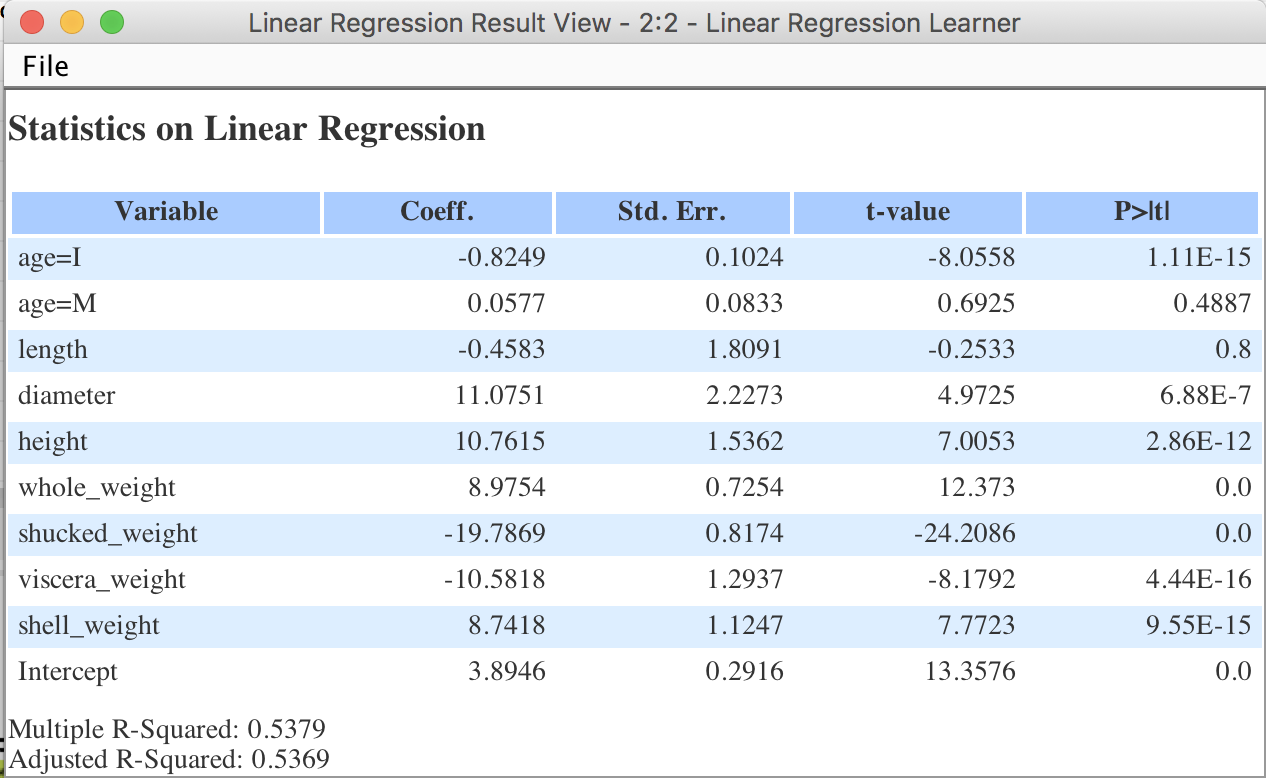
-19.7869 \* shucked\_weight +

-10.5818 \* viscera\_weight +

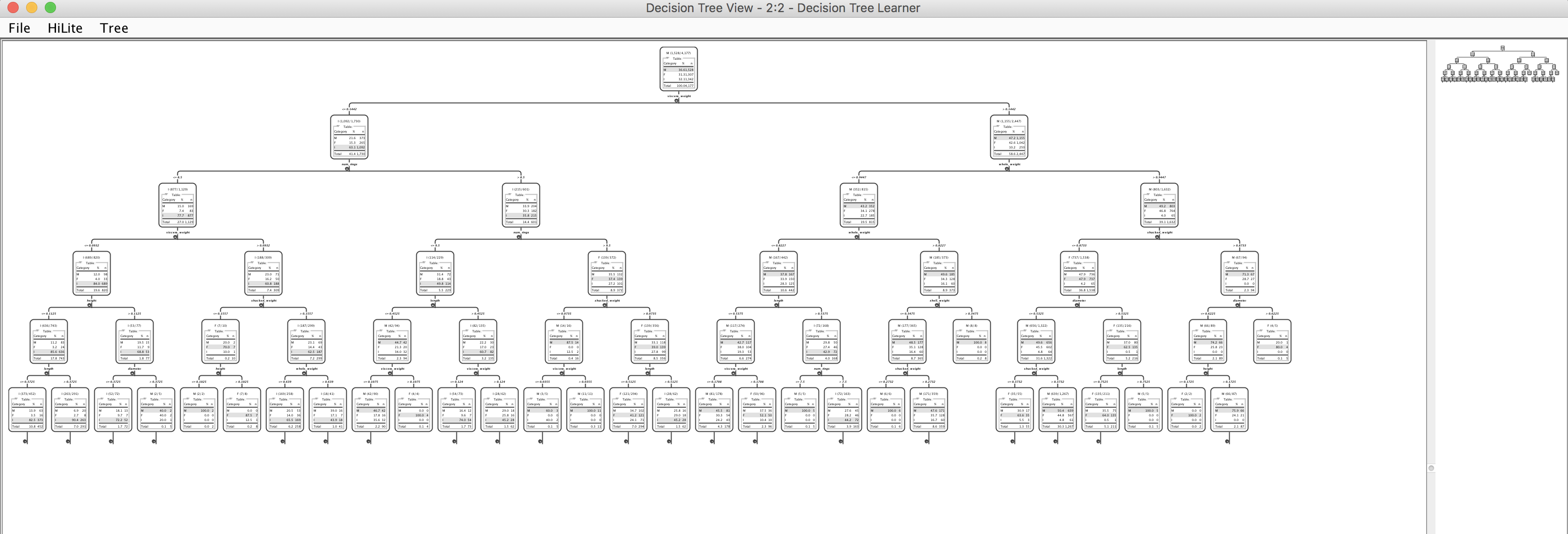
8.7418 \* shell\_weight +

3.8946

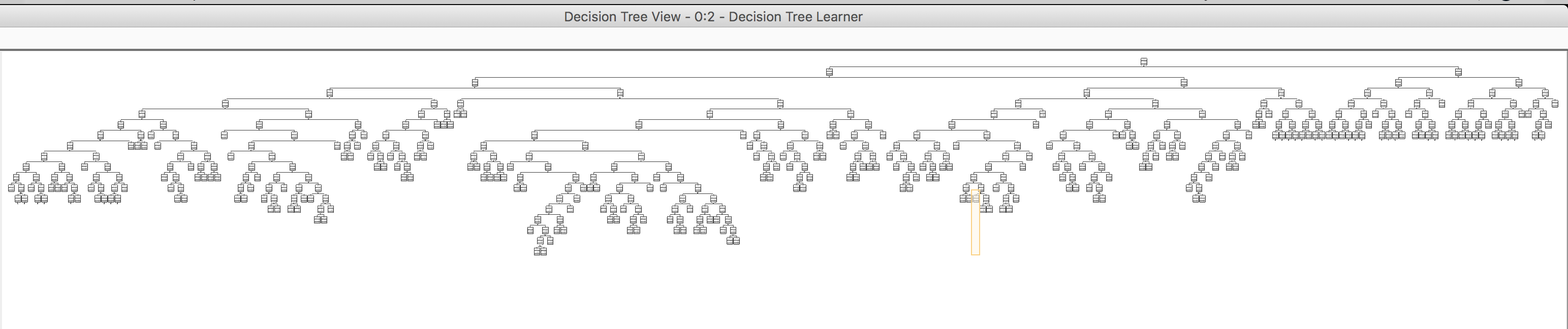
height, whole\_weight, shucked\_weight, viscera\_weight, shell\_weight have similar coefficients.

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**Q2:** Set up a ‘Decision Tree Learner’ predicator, where ‘Sex’ is the predicted variable. Provide a snapshot of the entire decision tree.

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Right side pane view:

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**BONUS QUESTION: RAPIDMINER**

**Q1:** How many data points are there in each cluster?

Cluster 0: 634 items

Cluster 1: 754 items

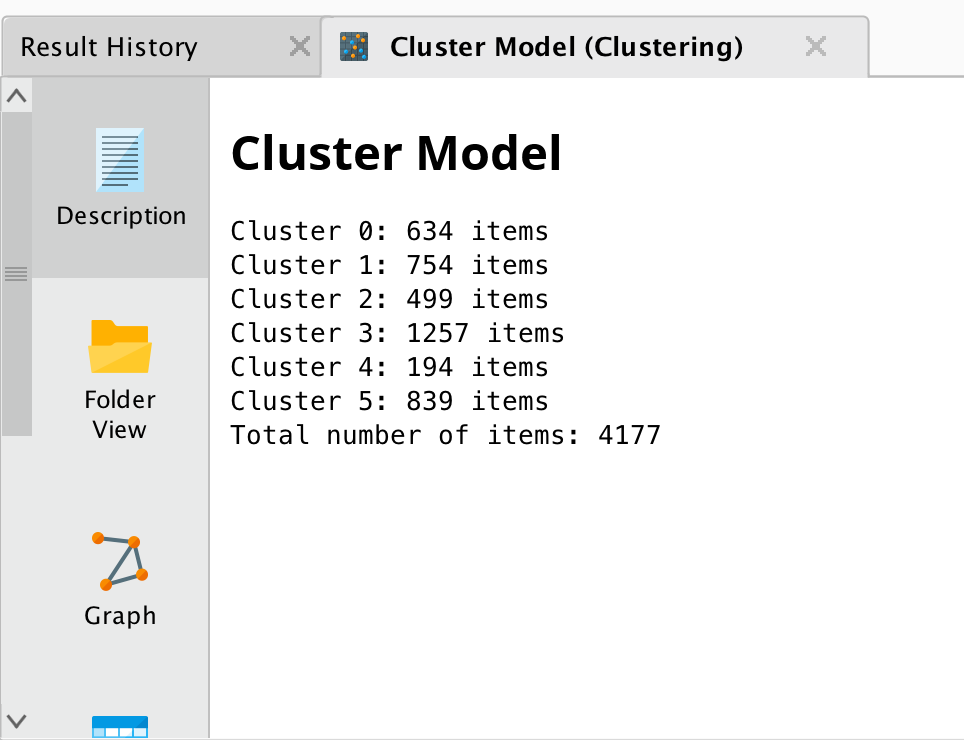
Cluster 2: 499 items

Cluster 3: 1257 items

Cluster 4: 194 items

Cluster 5: 839 items

Total number of items: 4177



**Q2:** What is the linear regression equation?

Num\_rings = -11.933 \* length +25.766 \* diameter + 20.358\* height + 2.836

