Out of Sample Prediction Quiz

7/7 points earned (100%)

Quiz passed!

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1.

Use the $predict$ function in R to predict $log(price)$ in the testing data set ($ames\_test$). Under $model.AIC$, what is the mean predicted price in the testing data set?
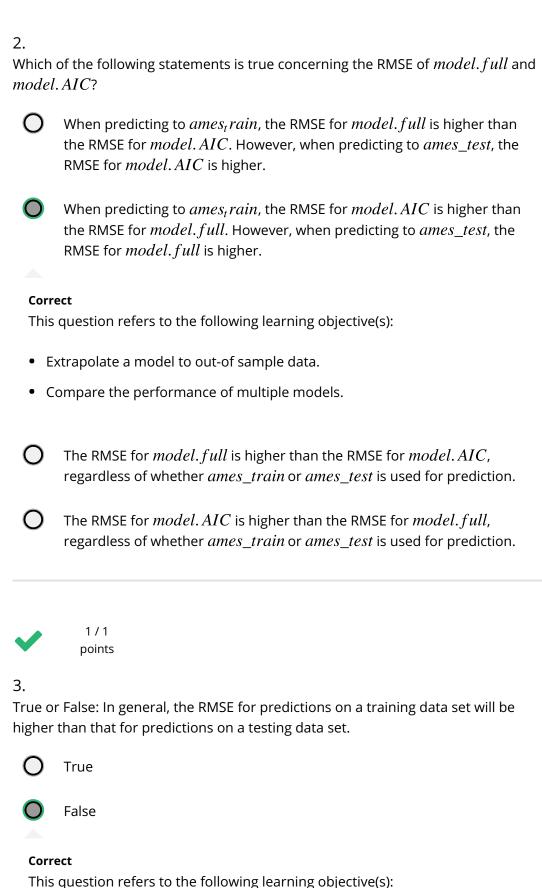
- ○ $12.02
- ○ $166,721.30
- ○ $172,994.50
- ● $177,220.30

Correct
This question refers to the following learning objective(s):

Extrapolate a model to out-of sample data.

1 / 1
points

2.

Which of the following statements is true concerning the RMSE of $model.full$ and $model.AIC$?

○ When predicting to $ames_train$, the RMSE for $model.full$ is higher than the RMSE for $model.AIC$. However, when predicting to $ames\_test$, the RMSE for $model.AIC$ is higher.

◉ When predicting to $ames_train$, the RMSE for $model.AIC$ is higher than the RMSE for $model.full$. However, when predicting to $ames\_test$, the RMSE for $model.full$ is higher.

Correct

This question refers to the following learning objective(s):

- Extrapolate a model to out-of sample data.

- Compare the performance of multiple models.

○ The RMSE for $model.full$ is higher than the RMSE for $model.AIC$, regardless of whether $ames\_train$ or $ames\_test$ is used for prediction.

○ The RMSE for $model.AIC$ is higher than the RMSE for $model.full$, regardless of whether $ames\_train$ or $ames\_test$ is used for prediction.

✔ 1 / 1 points

3.

True or False: In general, the RMSE for predictions on a training data set will be higher than that for predictions on a testing data set.

○ True

◉ False

Correct

This question refers to the following learning objective(s):

Extrapolate a model to out-of sample data.

4.

Create a new model entitled $model.BIC$ that uses BIC to select the covariates from $model.full$. What is the out-of-sample coverage for $model.BIC$?

○   0.948

◉   0.950

Correct
This question refers to the following learning objective(s):

- Check the assumptions of a linear model.

- Extrapolate a model to out-of sample data.

○   0.952

○   0.961

5.

Which of the following prediction methods has the smallest out-of-sample RMSE?

◉   HPM

Correct
This question refers to the following learning objective(s):

- Extrapolate a model to out-of sample data.

- Implement Bayesian model averaging for both prediction and variable selection.

○   BPM

○   BMA

6.

Using the median probability model to generate out-of-sample predictions and a 95% prediction interval, what proportion of observations (rows) in *ames_test* have sales prices that fall outside the prediction intervals?

○ 0.048

◉ 0.049

Correct
This question refers to the following learning objective(s):

- Extrapolate a model to out-of sample data.

- Implement Bayesian model averaging for both prediction and variable selection.

○ 0.050

○ 0.051

7.

True or False: The median probability model has a tendency to over-predict prices for the most expensive houses.

○ True

◉ False

Correct
This question refers to the following learning objective(s):

Extrapolate a model to out-of sample data.