

Congratulations! You passed!

Grade received 100% **To pass** 66% or higher

1. Which of the following is the meaning of "Out of Sample Accuracy" in the context of evaluation of models?

☐ "Out of Sample Accuracy" is the percentage of correct predictions that the model makes using the test dataset.

☐ "Out of Sample Accuracy" is the accuracy of a model on all the data available.

☒ **"Out of Sample Accuracy" is the percentage of correct predictions that the model makes on data that the model has NOT been trained on.**

☐ "Out of Sample Accuracy" is the accuracy of an overly trained model (which may capture noise and produced a non-generalized model)

Correct

Correct! Out-of-sample accuracy represents how well the model is able to perform on unknown data.

2. When should we use Multiple Linear Regression? (Select two)

☐ When there are multiple dependent variables

☒ **When we would like to identify the strength of the effect that the independent variables have on a dependent variable.**

Correct

Correct! Multiple linear regression is used for regression tasks involving more than one independent variable.

☐ When we would like to examine the relationship between multiple variables.

☒ **When we would like to predict impacts of changes in independent variables on a dependent variable.**

Correct

Correct! We hope to understand how the dependent variable change when we change the independent variables.

3. Which sentence is TRUE about linear regression?

☒ **A linear relationship is necessary between the independent variables and the dependent variable.**

☐ Multiple linear regression requires a linear relationship between the predictors and the response, but simple linear regression does not.

☐ Simple linear regression requires a linear relationship between the predictor and the response, but multiple linear regression does not.

☐ A linear relationship is necessary between the independent and dependent variables as well as in between independent variables.

Correct

Correct! If the relationship is non-linear, then we must use non-linear regression.