Congratulations! You passed!

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

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1. Which of the following examples is/are a sample application of Logistic Regression? (select three) **1 / 1 point**

- [x] Likelihood of a homeowner defaulting on a mortgage.

  Correct
  Correct! Here, we try to predict the possibility of defaulting versus not defaulting, which is a categorical response.

- [x] Customer's propensity to purchase a product or halt a subscription in marketing applications.

  Correct
  Correct! The outcome is a probability of a categorical variable.

- [x] The probability that a person has a heart attack within a specified time period using person's age and sex.

  Correct
  Correct! The outcome is binary and uses other variables as predictors.

- [ ] Estimating the blood pressure of a patient based on her symptoms and biographical data.

2. Which of the following statements comparing linear and logistic regressions is TRUE? **1 / 1 point**

- ( ) Independent variables in linear regression can be continuous or categorical, but can only be categorical in logistic regression.
- ( ) In this course, linear regression minimizes the mean absolute error, while logistic regression minimizes the mean squared error.
- (•) Linear regression is used for a continuous target whereas logistic regression is more suitable for a categorical target.
- ( ) Both linear and logistic regression can be used to predict categorical responses and attain a point's likelihood of belonging to each class.

Correct
Correct! Linear regression is not suitable for a categorical target because it tries to fit a line through the data, but the prediction is a step function that doesn't reflect class probability well.

3. How are gradient descent and learning rate used in logistic regression? **1 / 1 point**

- ( ) Gradient descent takes increasingly bigger steps towards the minimum with each iteration.
- ( ) Gradient descent will minimize learning rate to minimize the cost in fewer iterations.
- ( ) We want to minimize the cost by maximizing the learning rate value.
- (•) Gradient descent specifies the steps to take in the current slope direction, learning rate is the step length.

Correct
Correct! Gradient descent takes steps toward the minimum of the cost function, and the learning rate gives us control over how fast we move.