

Classification

TOTAL POINTS 15

1. Which one **IS NOT** a sample of classification problem?

3 points

- ☐ To predict the category to which a customer belongs to.
- ☐ To predict whether a customer switches to another provider/brand.
- ☒ To predict the amount of money a customer will spend in one year.
- ☐ To predict whether a customer responds to a particular advertising campaign or not.

2. Which of the following statements are **TRUE** about Logistic Regression? (select all that apply)

3 points

- ☒ Logistic regression can be used both for binary classification and multi-class classification
- ☒ Logistic regression is analogous to linear regression but takes a categorical/discrete target field instead of a numeric one.
- ☒ In logistic regression, the dependent variable is binary.

3. Which of the following examples is/are a sample application of Logistic Regression? (select all that apply)

3 points

- ☒ The probability that a person has a heart attack within a specified time period using person's age and sex.
- ☒ Customer's propensity to purchase a product or halt a subscription in marketing applications.
- ☒ Likelihood of a homeowner defaulting on a mortgage.
- ☐ Estimating the blood pressure of a patient based on her symptoms and biographical data.

4. Which one is **TRUE** about the kNN algorithm?

3 points

- ☐ kNN is a classification algorithm that takes a bunch of unlabelled points and uses them to learn how to label other points.
- ☒ kNN algorithm can be used to estimate values for a continuous target.

5. What is "**information gain**" in decision trees?

3 points

- ☐ It is the information that can decrease the level of certainty after splitting in each node.
- ☒ It is the entropy of a tree before split minus weighted entropy after split by an attribute.
- ☐ It is the amount of information disorder, or the amount of randomness in each node.

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