Machine Learning (ML) solved MCQs

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401. What are the two methods used for the calibration in Supervised Learning?

A. platt calibration and isotonic regression

B. statistics and informal retrieval

A.platt calibration and isotonic regression   discuss

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402. Which of the following are several models for feature extraction

A. regression

B. classification

C. none of the above

C.none of the above   discuss

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403. Lets say, a Linear regression model perfectly fits the training data (train error

A. a. you will always have test error zero

B. b. you can not have test error zero

C. c. none of th

C.c. none of the   discuss

404. In a linear regression problem, we are using R-squared to measure goodness-of-fit. We add a feature in linear regression model and retrain the same model.Which of the following option is true?

A. a. if r squared increases, this variable is significant.

B. b. if r squared decreases, this variable is not significant.

C. c. individually r squared cannot tell about variable importance. we cant say anything about it right now.

D. d. none of these.

C. c. individually r squared cannot tell about variable importance. we can�t say anything about it right now.   discuss

405. Which of the one is true about Heteroskedasticity?

A. a. linear regression with varying error terms

B. b. linear regression with constant error terms

C. c. linear regression with zero error terms

D. d. none of these

A. a. linear regression with varying error terms   discuss

406. Which of the following assumptions do we make while deriving linear regression parameters?1. The true relationship between dependent y and predictor x is linear2. The model errors are statistically independent3. The errors are normally distributed with a 0 mean and constant standard deviation4. The predictor x is non-stochastic and is measured error-free

A. a. 1,2 and 3.

B. b. 1,3 and 4.

C. c. 1 and 3.

D. d. all of above.

D. d. all of above.   discuss

407. To test linear relationship of y(dependent) and x(independent) continuous variables, which of the following plot best suited?

A. a. scatter plot

B. b. barchart

C. c. histograms

D. d. none of these

A. a. scatter plot   discuss

408. Generally, which of the following method(s) is used for predicting continuous dependent variable?1. Linear Regression2. Logistic Regression

A. a. 1 and 2

B. b. only 1

C. c. only 2

D. d. none of these.

B. b. only 1   discuss

409. Suppose you are training a linear regression model. Now consider these points.1. Overfitting is more likely if we have less data2. Overfitting is more likely when the hypothesis space is small.Which of the above statement(s) are correct?

A. a. both are false

B. b. 1 is false and 2 is true

C. c. 1 is true and 2 is false

D. d. both are true

C.c. 1 is true and 2 is false   discuss

410. Suppose we fit Lasso Regression to a data set, which has 100 features (X1,X2X100). Now, we rescale one of these feature by multiplying with 10 (say that feature is X1), and then refit Lasso regression with the same regularization parameter.Now, which of the following option will be correct?

A. a. it is more likely for x1 to be excluded from the model

B. b. it is more likely for x1 to be included in the model

C. c. cant say

D. d. none of these

B.b. it is more likely for x1 to be included in the model   discuss

411. Which of the following is true aboutRidge or Lasso regression methods in case of feature selection?

A. a. ridge regression uses subset selection of features

B. b. lasso regression uses subset selection of features

C. c. both use subset selection of features

D. d. none of above

B.b. lasso regression uses subset selection of features   discuss

412. Which of the following statement(s) can

A. a. 1 and 2

B. b. 1 and 3

C. c. 2 and 4

D. d. none of the above

A.a. 1 and 2   discuss

413. We can also compute the coefficient of linear regression with the help of an analytical method called Normal Equation. Which of the following is/are true about Normal Equation?1. We dont have to choose the learning rate2. It becomes slow when number of features is very large3. No need to iterate

A. a. 1 and 2

B. b. 1 and 3.

C. c. 2 and 3.

D. d. 1,2 and 3.

D.d. 1,2 and 3.   discuss

414. If two variables are correlated, is it necessary that they have a linear relationship?

A. a. yes

B. b. no

B.b. no   discuss

415. Correlated variables can have zero correlation coeffficient. True or False?

A. a. true

B. b. false

A.a. true   discuss

416. Which of the following option is true regarding Regression andCorrelation ?Note: y is dependent variable and x is independent variable.

A. a. the relationship is symmetric between x and y in both.

B. b. the relation

C. c. the relation

D. d. the relation

D.d. the relationship is symmetric between x and y in case of correlation but in case of regression it is not symmetric.   discuss

417. Suppose you are using a Linear SVM classifier with 2 class classification

A. yes

B. no

A.yes   discuss

418. If you remove the non-red circled points from the data, the decision boundary will change?

A. true

B. false

B.false   discuss

419. When the C parameter is set to infinite, which of the following holds true?

A. the optimal hyperplane if exists, will be the one that completely separates the data

B. the soft-margin classifier will separate the data

C. none of the above

A.the optimal hyperplane if exists, will be the one that completely separates the data   discuss

420. Suppose you are building a SVM model on data X. The data X can be error prone which means that you should not trust any specific data point too much. Now think that you want to build a SVM model which has quadratic kernel function of polynomial degree 2 that uses Slack variable C as one of its hyper parameter.What would happen when you use very large value of C(C->infinity)?

A. we can still classify data correctly for given setting of hyper parameter c

B. we can not classify data correctly for given setting of hyper parameter c

C. cant say

D. none of these

A.we can still classify data correctly for given setting of hyper parameter c   discuss

421. SVM can solvelinearand non- linearproblems

A. true

B. false

A.true   discuss

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422. The objective of the support vector machine algorithm is to find a hyperplane in an N-dimensional space(N the number of features) that distinctly classifies the data points.

A. true

B. false

A.true   discuss

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423. Hyperplanes are   boundaries that help classify the data points.

A. usual

B. decision

C. parallel

B.decision   discuss

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424. The   of the hyperplane depends upon the number of features.

A. dimension

B. classification

C. reduction

A.dimension   discuss

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425. Hyperplanes are decision boundaries that help classify the data points.

A. true

B. false

A.true   discuss