

MACHINE LEARNING

In Q1 to Q11, only one option is correct, choose the correct option:

- Which of the following methods do we use to find the best fit line for data in Linear Regression?
A) **Least Square Error** B) Maximum Likelihood
C) Logarithmic Loss D) Both A and B
- Which of the following statement is true about outliers in linear regression?
A) **Linear regression is sensitive to outliers** B) linear regression is not sensitive to outliers
C) Can't say D) none of these
- A line falls from left to right if a slope is _____?
A) Positive B) **Negative**
C) Zero D) Undefined
- Which of the following will have symmetric relation between dependent variable and independent variable?
A) **Regression** B) Correlation
C) Both of them D) None of these
- Which of the following is the reason for over fitting condition?
High bias and high variance B) **Low bias and low variance**
C) Low bias and high variance D) none of these
- If output involves label then that model is called as:
Descriptive model B) **Predictive model**
C) Reinforcement learning D) All of the above
- Lasso and Ridge regression techniques belong to _____?
A) **Cross validation** B) Removing outliers
C) SMOTE D) Regularization
- To overcome with imbalance dataset which technique can be used?
A) Cross validation B) **Regularization**
C) Kernel D) SMOTE
- The AUC Receiver Operator Characteristic (AUCROC) curve is an evaluation metric for binary classification problems. It uses _____ to make graph?
A) TPR and FPR B) Sensitivity and precision
C) **Sensitivity and Specificity** D) Recall and precision
- In AUC Receiver Operator Characteristic (AUCROC) curve for the better model area under the curve should be less.
A) **True** B) False
- Pick the feature extraction from below:
A) Construction bag of words from a email
B) Apply PCA to project high dimensional data
C) Removing stop words
D) **Forward selection**

In Q12, more than one options are correct, choose all the correct options:

12. Which of the following is true about Normal Equation used to compute the coefficient of the Linear Regression?
- A) We don't have to choose the learning rate.
 - B) It becomes slow when number of features is very large.
 - C) We need to iterate.
 - D) It does not make use of dependent variable.

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Q13 and Q15 are subjective answer type questions, Answer them briefly.

13. Explain the term regularization?

the act of bringing to uniformity; making regular. synonyms: regularisation, regulation. type of: control. the activity of managing or exerting control over something.

14. Which particular algorithms are used for regularization?

There are three main regularization techniques, namely: Ridge Regression (L2 Norm) Lasso (L1 Norm) Dropout.

15. Explain the term error present in linear regression equation?

Within a linear regression model tracking a stock's price over time, the error term is the difference between the expected price at a particular time and the price that was actually observed. ... The error term stands for any influence being exerted on the price variable, such as changes in market sentiment.
