

MACHINE LEARNING

- B) It becomes slow when number of features are very large.
- C) We need to iterate.
- D) It does not make use of dependent variable.

Answer- A),B) & C)

10. Which of the following statement/s are true if we generated data with the help of polynomial features with 5 degrees of freedom which perfectly fits the data?

- A) Linear Regression will have high bias and low variance.
- B) Linear Regression will have low bias and high variance.
- C) Polynomial with degree 5 will have low bias and high variance.
- D) Polynomial with degree 5 will have high bias and low variance

Answer- A) Linear Regression will have high bias and low variance.

11. Which of the following sentence is false regarding regression?

- A) It relates inputs to outputs.
- B) It is used for prediction.
- C) It discovers causal relationship.
- D) No inference can be made from regression line Linear Regression will have high bias and low variance..

Answer- C) & D)

Q12 and Q13 are subjective answer type questions, Answer them briefly.

12. Which Linear Regression training algorithm can we use if we have a training set with millions of features?

Answer- If you have a training set with millions of features you can use Stochastic Gradient Descent or Mini-batch Gradient Descent, and perhaps Batch Gradient Descent if the training set fits in memory. But you cannot use the Normal Equation because the computational complexity grows quickly (more than quadratically) with the number of features.

13. Which algorithms will not suffer or might suffer, if the features in training set have very different scales?

Answer-

The normal equations method does not require normalizing the features, so it remains unaffected by features in the training set having very different scales.

The Gradient Descent suffers from features of different scales, because the model will take a longer time to reach the global maximum. We can always scale the features to eliminate this problem.

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