

DM-Quiz-2020-Q6

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- ✗ 1. KNN is
- ☐ A data-driven method
 - ☐ B model-driven method
 - ☒ C I do not know
- ✓ 2. The dependent variable of the classification is
- ☒ A categorical
 - ☐ B numeric
 - ☐ C I do not know
- ✓ 3. KNN can be used for regression
- ☒ A Yes
 - ☐ B No
 - ☐ C I do not know
- ✗ 4. In the case of KNN classification we use
- ☒ A average of outcomes
 - ☐ B majority voting scheme
 - ☐ C I do not know
- ✗ 5. Which of these errors will increase constantly by increasing k?
- ☐ A train error
 - ☐ B test error
 - ☒ C both
 - ☐ D I do not know

✗ 6. This function can be used to perform KNN classification in R

- ☐ A knn()
- ☐ B k_nn()
- ☐ C knnreg()
- ☐ D knearneib()
- ☒ E I do not know

✗ 7. With the increase of k , the decision boundary will be

- ☐ A simplified
- ☒ B more complex
- ☐ C I do not know
- ☐ D unchanged

✗ 8. KNN algorithm is sensitive to outliers

- ☐ A True
- ☒ B False
- ☐ C I do not know

✓ 9. KNN

- ☒ A is a supervised learning algorithm.
- ☐ B is an unsupervised learning algorithm.
- ☐ C I do not know

✗ 10. In the case of small k we have

- ☐ A overfitting
- ☒ B underfitting
- ☐ C it depends on the situation
- ☐ D I do not know

✗ 11. Why do we need scaling in KNN?

- ☒ A to avoid overfitting
- ☐ B to avoid underfitting
- ☐ C to have "equal" weights for variables
- ☐ D I do not know

- ✗ 12. Let $k = n$, (n - number of observations), K-NN is same as
- ☐ A random guessing
 - ☐ B everything will be classified as the most probable class (in total)
 - ☐ C everything will be classified as the least probable class (in total)
 - ☒ D I do not know

- ✗ 13. This function can be used to perform K-NN regression in R
- ☐ A knn.reg
 - ☐ B knnforreg
 - ☒ C regknn
 - ☐ D knnforregression
 - ☐ E I do not know

- ✓ 14. Do you need to worry about scaling with one explanatory variable?
- ☒ A No
 - ☐ B Yes
 - ☐ C I do not know

- ✓ 15. n - the number of observation, m - the number of explanatory variables When $n=k$, $m=1$, the decision boundary for regression is
- ☒ A a line
 - ☐ B a stepwise constant function
 - ☐ C a stepwise quadratic function
 - ☐ D I do not know

- ✗ 16. Which of these algorithms can be used to fill the missing values
- ☐ A KNN for regression
 - ☐ B KNN for classification
 - ☐ C both
 - ☒ D I do not know

✗ 17. Which one is better: KNN regression or Linear regression?

- ☐ A KNN outperform LR if the parametric form that has been selected is close to the true form of f
- ☐ B LR outperform KNN if the parametric form that has been selected is close to the true form of f
- ☐ C KNN will always outperform the LR
- ☒ D I do not know

✓ 18. Which one is the Disadvantage of KNN?

- ☐ A required assumptions
- ☐ B cannot be applied for regression
- ☐ C difficult to perform
- ☒ D the problem of high dimensional data
- ☐ E I do not know

✗ 19. The best k for train set equals to

- ☐ A 1
- ☒ B 2
- ☐ C 0
- ☐ D I do not know