Logical Expressions Interview Questions and Answers

1. **Logistic regression method is _____.**

- a) Any type of output variable.
- b) Only for binary classification output.
- c) More than two outcomes.
- d) None of the above.

Answer - b) Only for binary classification output

2. **Mathematical understanding of the _____and the natural logarithm function is used to understand what logistic regression is and how it works.**

- a) Sigmoid function.
- b) Linear function.
- c) Tanh function.
- d) Relu function.

Answer - a) Sigmoid function

3. **The sigmoid function has values very close to either _____across most of its domain.**

- a) Infinity.
- b) Negative values.
- c) 0 or 1.
- d) Always 0.

Answer - c) 0 or 1

4. **The sigmoid function has values very close to either 0 or 1. This fact makes it suitable for application in _____ methods.**

- a) Classification.
- b) Continuous values prediction.

- c) Both (a) and (b).
- d) None of the above.

Answer - a) Classification

5. **In Python, _____ represent the natural logarithm of x which is used while applying logistic regression.**

- a) Only math.log(x).
- b) Only numpy.log(x).
- c) Math.log(x) and numpy.log(x) both.
- d) None of the above.

Answer - c) Math.log(x) and numpy.log(x) both

6. **Logistic regression is a linear classifier, so you'll use a linear function (x) = $b_0 + b_1x_1 + \cdots + b_rx_r$, also called the _____.**

- a) Logit.
- b) Login.
- c) Log.
- d) None of the above.

Answer - a) Logit

7. **In Logistic regression is a linear classifier, so you'll use a linear function (x) = $b_0 + b_1x_1 + \cdots + b_rx_r$, where the variables b_0, b_1, …, b_r are called as _____**

- a) Estimators.
- b) Predicted weights.
- c) Coefficients.
- d) All of the above.

Answer - d) All of the above

8. **The logistic regression function (x) is the sigmoid function of f(x):p(x) =_____.**

- a) 1 / (1 + exp(-f(x)).
- b) (1 + exp(-f(x)).

- c) (1 - exp(-f(x)).
- d) None of the Above.

Answer - a) 1 / (1 + exp((-f(x))

9. In Logistic regression ,the function p(x) is often interpreted as the predicted probability that the output for a given x is equal to 1. Therefore, 1-(x) is the probability that the output is _____.

- a) 1.
- b) Infinity.
- c) 0.
- d) None of the above.

Answer - c) 0

10. Logistic regression determines the best predicted weights b_0, b_1, …, b_r such that the function p(x) is as close as possible to all actual responses y_i, i = 1, …, n, where n is the number of observations. The process of calculating the best weights using available observations is called _____.

- a) Data Preprocessing.
- b) Model Validating.
- c) Model training or fitting.
- D) All of the above.

Answer - c) Model training or fitting

11. In Logistic regression to get the best weights, we usually maximize the log-likelihood function (LLF) for all observations i = 1, …, n. This method is called the _____ .

- a) Minimum likelihood estimation.
- b) Maximum likelihood estimation.
- c) True likelihood estimation.
- d) None of the above.

Answer - b) Maximum likelihood estimation

12. The method maximum likelihood estimation is represented by the equation LLF = _____ .

- a) $\sum_i(y_i \log(p(x_i)) + (1 - y_i) \log(1 - p(x_i)))$.
- b) $(y_i \log(p(x_i)) + (1 - y_i) \log(1 - p(x_i)))$.
- c) $\sum_i(y_i \log(p(x_i)) + (1 - y_i) \log(1 - p(x_i)))$.
- d) None of the above.

Answer - a) $\Sigma_i(y_i \log(p(x_i)) + (1 - y_i) \log(1 - p(x_i)))$

13. Binary classification has possible types of results, one of which is True negatives which means_____ .

- a) Correctly predicted negatives (zeros).
- b) Correctly predicted positives (ones).
- c) Incorrectly predicted negatives (zeros).
- d) Incorrectly predicted positives (ones).

Answer - a) Correctly predicted negatives (zeros)

14. Binary classification has possible types of results, one of which is True positives which means _____ .

- a) Correctly predicted negatives (zeros).
- b) Correctly predicted positives (ones).
- c) Incorrectly predicted negatives (zeros).
- d) Incorrectly predicted positives (ones).

Answer - b) correctly predicted positives (ones)

15. Binary classification has possible types of result, one of which is False negatives which means _____ .

- a) Correctly predicted negatives (zeros).
- b) Correctly predicted positives (ones).
- c) Incorrectly predicted negatives (zeros).
- d) Incorrectly predicted positives (ones).

Answer - c) Incorrectly predicted negatives (zeros)

16. Binary classification has possible types of result, one of which is False positives which means _____ .

- a) Correctly predicted negatives (zeros).
- b) Correctly predicted positives (ones).
- c) Incorrectly predicted negatives (zeros).
- d) Incorrectly predicted positives (ones).

Answer - d) Incorrectly predicted positives (ones)

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