Logistic Regression Interview Questions

These questions can be found on our website, https://vitalflux.com, on this page, 30 Logistic Regression Questions and Practice Tests.

1. Logistic regression is used to predict _____ valued output?
   - Continuous
   - Categorical
2. How much marks a strudent can get in a competitive exam based on hours of study can be solved using _____ regression model
   - Multi-linear
   - Logistic
3. Logistic regression is _____ when the observed outcome of dependent variable can have only two values such as 0 and 1 or success and failure
   - Binomial
   - Multinomial
   - Ordinal
4. Whether a strudent will pass or fail in the competitive exam based on hours of study can be solved using _____ regression model
   - Multi-linear
   - Logistic
5. _____ regression can be termed as a special case of _____ regression when the outcome variable is categorical
   - Logistic, Linear
   - Linear, Logistic
6. In logistic regression, the goal is to predict _____
   - Actual value of outcome dependent variable
   - Odds of outcome dependent variable
7. Which of the following can be used to evaluate the performance of logistic regression model?
   - Adjusted R-Squared
   - AIC
8. Which of the following is link function in logistic regression
   - Identity
   - Logit
9. Logistic regression is _____ when the observed outcome of dependent variable can have multiple possible types
   - Binomial
   - Multinomial
   - Ordinal
10. In logistic regression, following technique is used to measure the goodness of the fit
    - Sum of squares calculations
    - Deviance calculations
11. Which of the following can be used to evaluate the performance of logistic regression model?

- AIC
- Null and Residual Deviance
- Both of the above
- None of the above

12. Given two model with different AIC value, which one would be preferred model?
    - One with higher AIC value
    - One with lower AIC value

13. Deviance is a measure of difference between a _____ model and the _____ model
    - saturated, fitted
    - Fitted, saturated

14. Logistic regression is _____ when the observed outcome of dependent variable are ordered
    - Binomial
    - Multinomial
    - Ordinal

15. Logit transformation is log of _____
    - Odds of the event happening for different levels of each independent variable
    - Ratio of odds of the event happening for different levels of each independent variable

16. Logistic function is _____
    - Dependent variable equalling a given case
    - Probability that dependent variable equals a case

17. Deviance is is a function of _____
    - Exponential function of likelihood ratio
    - Logrithmic function of likelihood ratio

18. The odds of the dependent variable equaling a case (given some linear combination x of the predictors) is equivalent to _____
    - Log function of the linear regression expression
    - Exponential function of the linear regression function

19. Regression coefficients in logistic regression are estimated using _____
    - Ordinary least squares method
    - Maximum likelihood estimation method

20. _____ is analogous to _____ in linear regression
    - Sum of squares calculations, deviance
    - Deviance, sum of squares calculations

21. Deviance can be shown to follow _____
    - t-distribution
    - F-distribution
    - Chi-square distribution
    - None of the above

22. _____ value of deviance represents the better fit of model
    - Higher
    - Lower

23. If the model deviance is significantly _____ than the null deviance then one can conclude that the predictor or set of predictors significantly improved model fit
    - Smaller
    - Larger

24. Which of the following is analogous to R-Squared for logistic regression
    - ○ Likelihood ration R-squared
    - ○ McFadden R-squared
    - ○ Cox and Snell R-Squared
    - ○ All of the above
25. Estimation in logistic regression chooses the parameters that _____ the likelihood of observing the sample values
    - ○ Minimizes
    - ○ Maximizes
26. Which of the following tests can be used to assess whether the logistic regression model is well calibrated
    - ○ Hosmer-Lemeshow test
    - ○ ROC Curve
    - ○ Both of the above
27. ROC related with ROC curve stands for _____
    - ○ Regression Optimization Characteristic
    - ○ Regression Operating Characteristic
    - ○ Receiver Operating Characteristic
28. Which of the following is used to identify the best threshold for separating positive and negative classes
    - ○ Hosmer-Lemeshow test
    - ○ ROC Curve
    - ○ Both of the above
29. ROC curve is a plot of _____ vs _____
    - ○ Sensitivity, 1-specificity
    - ○ 1-specificity, Sensitivity
30. _____ the value of AUC, better is the prediction power of the model
    - ○ Lower
    - ○ Higher