Logistic Regression Interview Questions

These questions can be found on our website, [https://vitalflux.com](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 student 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 student 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?
12. Given two models with different AIC values, which one would be preferred?
   - 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 the 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 a function of ________
   - Exponential function of likelihood ratio
   - Logarithmic 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