DM-Spring-2020-Q4-Grade

70% (14/20)

1. Poisson distribution is specified by

A 1 parameter

B 2 parameters

C 3 parameters

D Poisson distribution does not have parameters

E I do not know

2. The type of dependent variable in Poisson Regression is

A Integer

B Count

C Ratio

D Interval

E I do not know

F Binary

3. Overdispersion in Poisson Regression occurs when

A $var(Y|X)>var(Y)$

B $var(Y|X)>mean(Y|X)$

C Variance is decreasing

D I do not know

4. The model of Poisson Regression is specified by the following formula

A $ln(lambda)=xb$

B $ln(y)=e^{(xb)}$

C $ln(y)=e^{(xb)}/(1+e^{(xb)})$

D $ln(lambda)=e^{(xb)}/(1+e^{(xb)})$

E I do not know

5. We can estimate Poisson Regression in R using function

A lm()

B glm()

C flm()

D poisson()

E I do not know

6. Which one of these is the measure for goodness of fit for Poisson Regression?

A Ordinal R^2

B Chi-square

C I do not know

D There are not measure for it

7. Which one of these is the correct interpretation of the coefficient of Poisson Regression?

A For a 1-unit increase in X, we expect a b1 unit increase in Y.

B For a 1-unit increase in X, we expect b1 percentage increase in Y.

C For a 1-percentage increase in X, we expect b1 percentage increase in Y.

D For a 1-percentage increase in X, we expect b1 unit increase in Y.

E I do not know

8. Count data is continuous

A Yes

B No

C I do not know

9. The logistic model is estimated by way of

A Ordinary least squares

B Maximum likelihood estimation

C Negative binomial distribution

D I do not know

10. As a result of estimation of coefficients

A We do not have the formula, an iterative algorithm must be used

B The explicit formula of coefficients exists

C I do not know

D We can obtain different values for coefficients

11. In Poisson regression...

A The asymptotic distribution of the maximum likelihood estimates is multivariate normal.

B The distribution of the maximum likelihood estimates is multivariate normal.

C The asymptotic distribution of the maximum likelihood estimates is multivariate Poisson distribution.

D I do not know

12. Pseudo R-Squared Measures are calculated based on (if any)

A Deviance

B Chi-squared value

C I do not know

13. The formula for the raw residual is

A The difference between the actual response and the estimated value from the model

B The squared difference between the actual response and the estimated value from the model

C The difference between the actual response and the estimated value from the model by dividing by the standard deviation

D I do not know

14. Which of these is NOT the type of residuals

A Deviance Residual

B Pearson Residual

C Raw Residual

D Poisson Residual

E I do not know

15. In the case of intercept-only model

A The mean of the dependent variable equals the exponential value of the intercept

B The mean of the dependent variable equals the intercept

C The mean of the dependent variable equals 0

D I do not know

16. ln(lambda) = 0.6 - 0.2* female [lamda = the average number of articles] Note: e^(-0.2)=0.78

A One unit increase in female brings a 0.2 decrease in ln(lambda).

B Being female decreases the average number of articles by 0.78 percent

C Being female decreases the average number of articles by 22%

D I do not know

17. While running the Poisson Regression we will have never faced with the value of lambda

A 0

B 1

C 2

D I do not know

18. Why does not quasi-Poisson model have AIC?

A Quasi-Poisson is used quasi-likelihood instead of log-likelihood estimates.

B Quasi-Poisson does not use iterative estimation

C I do not know

19. Why Poisson regression is called log-linear?

A Because we use a log link to estimate the logarithm of the average value of the dependent variable

B Because we use a log values of independent variable

C Because we use a log value of an independent variable is transformed to linear

D I do not know

✕ 20. Formulate the Null hypothesis for chi-squared and deviance test.

A The distance between actual and predicted values is insignificant

B The distance between actual and predicted values is 0

C There is a significant difference between actual and predicted values.

D I do not know