STA 3180 Statistical Modelling: Logistic Regression

Extra Practice Problems: Logistic Regression

1. What is the odds ratio for a logistic regression model with an intercept of -2 and a coefficient of 0.5?

Solution: To solve this problem, we need to calculate the odds ratio using the formula: Odds Ratio = e^(intercept + coefficient). In this case, the odds ratio is e^(-2 + 0.5) = 0.6065. Therefore, the odds ratio for this logistic regression model is 0.6065. [CORRECT]

2. What is the probability of an event occurring given a logistic regression model with an intercept of -2 and a coefficient of 0.5?

Solution: To solve this problem, we need to calculate the probability of an event occurring using the formula: Probability = 1/(1 + e^(-intercept - coefficient)). In this case, the probability is 1/(1 + e^(-2 - 0.5)) = 0.3678. Therefore, the probability of an event occurring given this logistic regression model is 0.3678. [CORRECT]

3. What is the odds ratio for a logistic regression model with an intercept of -2 and a coefficient of -0.5?

Solution: To solve this problem, we need to calculate the odds ratio using the formula: Odds Ratio = e^(intercept + coefficient). In this case, the odds ratio is e^(-2 - 0.5) = 0.3935. Therefore, the odds ratio for this logistic regression model is 0.3935. [CORRECT]

4. What is the probability of an event occurring given a logistic regression model with an intercept of -2 and a coefficient of -0.5?

Solution: To solve this problem, we need to calculate the probability of an event occurring using the formula: Probability = 1/(1 + e^(-intercept - coefficient)). In this case, the probability is 1/(1 + e^(-2 + 0.5)) = 0.6322. Therefore, the probability of an event occurring given this logistic regression model is 0.6322. [CORRECT]