Feedback — Quiz: Week One

Help Center

You submitted this quiz on **Mon 11 May 2015 10:59 AM PDT**. You got a score of **6.00** out of **6.00**.

Question 1

What generally distinguishes logistic regression from linear regression?

Your Answer		Score	Explanation
○ Nothing, they are very similar			
◉ The outcome variable for logistic regression is dichotomous (or binary)	✔	1.00	Great job! We know that in linear regression our outcome, or response (Y), variable was continuous. However, in logistic regression, we model a binary outcome.
○ The predictor variables for logistic regression cannot be continuous			
○ The outcome variable for logistic regression is continuous			
Total		1.00 / 1.00	

Question 2

The ratio of the probability of an outcome being present divided by the probability of an outcome not being present, $\frac{\pi(x)}{(1-\pi(x)}$, is known as what?

Your Answer	Score	Explanation
○ The likelihood		

○ The probability			
◉ The odds	✔	1.00	Good job! The probability divided by 1-probability is the odds. Similarly, the odds divided by 1+odds is the probability of an event occurring. Odds can be calculated from probability and vice versa.
Total		1.00 / 1.00	

Question 3

The distribution of a binary outcome variable is ~N(0,\sigma^2)

(please answer True or False below)

Your Answer		Score	Explanation
○ True			
◉ False	✔	1.00	Good job! We know that we can no longer assume that the distribution is normal, because, as opposed to linear regression, the distribution is now binomial in logistic regression modeling.
Total		1.00 / 1.00	

Question 4

What method is used to estimate logistic regression parameters?

Your Answer	Score	Explanation
○ Least squares estimation		

◉ Maximum likelihood estimation	✔	1.00	Yes, this is correct. Maximum likelihood estimators are chosen by identifying parameters that maximize the likelihood of getting the data that we observed.
○ Simple estimation			
○ None of the above			
Total		1.00 / 1.00	

Question 5

If, in a population of 1,000 individuals, the probability of having a heart attack within the next year is estimated to be 10% per individual. How many heart attacks would you expect to observe within the next year?

Your Answer		Score	Explanation
○ 50			
◉ 100	✔	1.00	Nice work! We know this is correct because 10% of 1,000 is 100
○ 75			
○ 10			
Total		1.00 / 1.00	

Question 6

For a logistic model, the log likelihood provided in the STATA output is the value of the likelihood computed using the parameter estimates \beta_0, \beta_1.

(please answer True or False below)

Your Answer		Score	Explanation
◉ True	✔	1.00	Great job! This is the idea behind maximum likelihood estimation.
○ False			
Total		1.00 / 1.00	