Wooclap questions relevant to Midterm

1. Sensitivity and specificity are examples of
   1. Joint probabilities
   2. Marginal probabilities
   3. **Conditional probabilities**
   4. Independent probabilities
2. True or false: mutually exclusive events are, by definition, independent events.
   1. True
   2. **False** (mutually exclusive events cannot both happen, so knowing the outcome of one event gives you information about the probability of the other event)
3. Once I produce a 95% confidence interval, there is a 95% probability that the true parameter value lies in that interval.
   1. True
   2. **False** (the true parameter is a fixed value, so it does not have a probability)
4. Once I produce a 95% confidence interval, there is a 95% probability that the sample statistic lies in that interval.
   1. True
   2. **False** (the sample statistic is a fixed, calculated value, so it does not have a probability. You can see if it is in the interval and in the case of a theoretical confidence interval, it is guaranteed to be in the interval)
5. Which metric incorporates Y, meaning it evaluates the influence of observations on the regression as a whole?
   1. Leverage
   2. **Cook’s Distance**
   3. Variance Inflation Factor
6. We should exclude observations with a Cook's distance >5 and exclude variables with VIF > 10
   1. True
   2. **False** (we do not exclude observations or variables solely based on arbitrary thresholds)