

- 12) You would use a paired sample t-test because the subjects are the same group of people and were tested before and after the event.
- 13) Definition of correlation coefficient as stated in lecture 13-14 page 5.
- 14) The p-value is in the table in the box "P-value" and alcohol consumption since alcohol consumption is our variable of interest.
- 15) Using the formula $y = \text{"alpha"} + \text{"beta"} x$, the intercept is coefficients of the "intercept" 3.87284 and the coefficient of beta is -0.00142679. Just like the line equation $y = mx + b$, put in $x = 1000$ given in the problem and you'll get answer C
- 16) Look at the p-value, since it is 0.574487 which is greater than 0.025 which means we should not reject the null hypothesis and say that there is not enough evidence to say there's correlation between the two variables
- 17) Look at question 15, since the "slope" = coefficient of alcohol consumption and it is a negative number, we conclude it is negative correlation if any. Therefore $r < 0$. Also, The p-value for testing the null hypothesis is 0.574487 so c is also correct and therefore f is the answer.
- 18) Use odds ratio because we are interested in the odds of getting the disease if exposed versus the odds of getting the disease if not exposed which is in lecture 17 page 4.
- 19) use the formula ad/cb which $a = 78$, $b = 156$, $c = 316$, $d = 450$
- 20) Look at the confidence interval. It contains "1" therefore we do not reject the null hypothesis so we say that there's no statistically significant correlations between the two variables.

Sorry for taking so long, email me with questions.

-Kent