**COMP1433 Quiz 1 (Thursday)**

1. Which of the following is(are) data-driven? ABD
2. Product recommendation
3. Search engine
4. R programing
5. Deep learning

refer to Lecture2 page2

A data-driven approach is when decisions are based on analysis and interpretation of hard data rather than on observation. ... A data-driven approach helps us predict the future by using past and current information. Without data, we run the risk of making false assumptions and being swayed by biased opinions.

R programming is a just tool for data analysis. It could be used without hard data.

1. Naïve Bayes is a(n) \_\_\_\_\_ algorithm. AC
2. supervised learning
3. unsupervised learning
4. machine learning

refer to Lecture2 page37

1. (True or False) If two random variables X and Y exhibit E(XY)=E(X)E(Y), then we can say that X and Y are independent: B
2. True
3. False

refer to Tutorial3 page2

1. Suppose you and your friend roll two fair 6-sided dices together and the one results in a larger number will win the game (equal outcomes are excluded). You observe your dice lands with 3 while the rolling outcome of your friend’s dice is unknown. Based on what you know, you will win the game with the probability of \_\_\_\_\_. A
2. 1/3
3. 1/18
4. 1/36
5. 1/6

Your dice is 3. Your friend’s dice need to be 1 or 2 so that you could win. All the possible dices of your friend is 1, 2, 3, 4, 5, 6. So the probability equals 2/6=1/3.

1. We are interested in the average salary of all CS graduates in 2021, namely .100 randomly sampled graduates were hence invited for an interview and their average salary is 20K. Besides, according to the 2020 data, the population standard deviation is 5K, which is assumed to be unchanged for 2021. We say [19K, 21K] is the \_\_\_ confidence interval estimate of . C
2. 90%
3. 92%
4. 95%
5. 97%

Frist refer to Lecture3 page26-27, simulating the procedure with the value in this question, then get the answer.

In this question, given: =5k, n=100, =20k. P()

P()=P()

So = 20k - 5k\*z/10=19k, so z=2.

So P=1-2 =1-2 =95%