# **NB Quiz**

Due No due date Points 3
Available after Mar 19 at 16:05
Allowed Attempts Unlimited

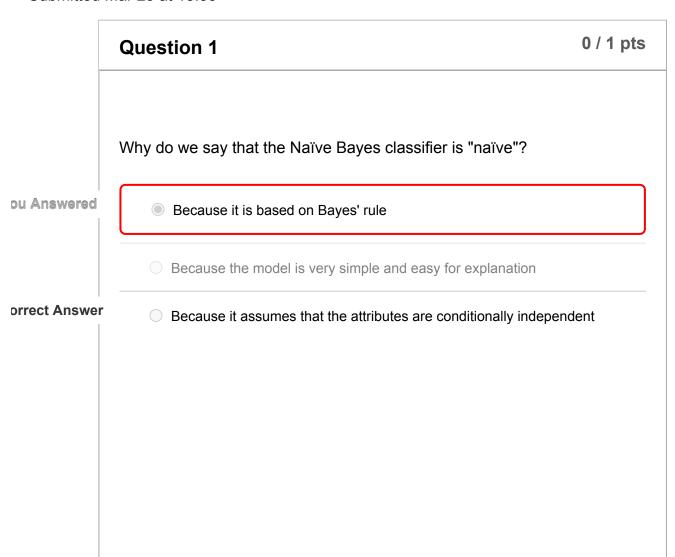
Questions 3
Time Limit None

Take the Quiz Again

## **Attempt History**

	Attempt	Time	Score
LATEST	Attempt 1	less than 1 minute	0 out of 3

### Submitted Mar 23 at 18:53



The most important assumption of Naïve Bayes is that given a class value the attributes are irrelevant to each other. This is a naïve assumption, because it is not true for almost every realistic machine learning problem.

Question 2 0 / 1 pts

## For the following dataset:

ID	Outl	Temp	Humi	Wind	Play
Α	S	h	n	F	N
В	o	h	h	F	Υ
С	s	m	n	Т	Υ
D	s	m	h	F	Y

What is the label for the test instance of {Outl=r, Temp=c, Humi=l, Wind=?} using the epsilon smoothing method.

#### orrect Answer

- O Play=Y
- We need to use Laplace smoothing

### ou Answered

Play=N

We cannot classify this instance by Naïve Bayes classifier because we don't have enough training data

By ignoring the unknown value for Wind we have:

For Play=N:  $= \frac{1}{4} * \varepsilon * \varepsilon * \varepsilon = \frac{1}{4} \varepsilon^{3}$  For Play=Y:  $= \frac{3}{4} * \varepsilon * \varepsilon * \varepsilon = \frac{3}{4} \varepsilon^{3}$ 

Since the number of  $\varepsilon$  is the same, so by ignoring them, the test instance classifies as Y.

#### 0 / 1 pts **Question 3**

What sentence is wrong about NB classification?

NB is robust to irrelevant features

ou Answered

We don't need a true distribution over P(y|x)

orrect Answer

The model is too easy to use in real-world application.

We can build the NB model if there are missing values in the training dataset

Naïve Bayes classifier works well in spite of its massive simplification.