**CPT\_S 570 HW4**

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**2.** **a. Let us assume that the training data satisfies the Naive Bayes assumption (i.e., features are independent given the class label). As the training data approaches infinity, which classifier will produce better results, Naive Bayes or Logistic Regression? Please explain your reasoning.**

**3.(a)** **Can we compute P(X) from the learned parameters of a Naive Bayes classifier? Please explain your reasoning.**

No, because Naïve Bayes doesn’t need to calculate the P(x) which is the joint distribution to estimate the p(x|y). It only need to estimate p(xi|y) for each feature i

**b. Can we compute P(X) from the learned parameters of a Logistic Regression classifier? Please explain your reasoning.**

Yes, because Logistic Regression uses MLE to estimate P(x)