Spam SMS Message Detection

I trained a Multinomial Naive Bayes Classifier and the results are shown below. While MLE estimating, since one of the data has 0 as a probability and the other one does not, I directly predicted the one that has no because the other one will be -infinity. If both have 0, the directive was to predict as 0. If both does not have zeros in the probabilities, I calculated it and predict the one that the probability is higher.

```
accuracy =  0.9222903885480572
TP =  76 FN =  64
FP =  12 TN =  826
```

I trained Bernoulli for 100 features and this was the accuracy of the model. If you change the feature number in code you can get for the others as well.

```
In [123]: acc_bern
Out[123]: 0.8568507157464212
```

Comparing Bernoulli and multinomial, I get a higher on multinomial. I think this occurred because in Bernoulli we just have the data of the word 's absence but the number of the word is also deterministic.