

1. 0.4018006002
2. 0.5981993998
3. (97.2091286307054, 36369.99111261216)
4. (0.048425863991081425, 0.08830560325706197)
5. [0, 0, 0, 0, 0]
6. [0, 0, 0, 0, 0]
7. 20%
8. 59%
9. **No.** The assumption that the attributes are independent is **not reasonable**. Spam emails are most likely to contain exclamatory marks just after the capital letters. For example, CASH PRIZE!!!

So, in this case it makes more sense to calculate the joint probability of capital letters and exclamatory marks occurring together than considering them as independent.