Exercise 3.3 – Which Probability is Higher?

* Unsmoothed probability: 0.33
* Smoothed (add-one): 0.00088

Explanation:

The unsmoothed model assigns a higher probability because it directly uses empirical counts where available. The smoothed model adjusts probabilities downward to avoid zeros but spreads the probability mass across more combinations—including unseen ones. This lowers the probability of frequent sequences but gives robustness overall.