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1)

probability for the positive class = (0.4 * 0.09 * 0.07 * 0.29 * 0.04 * 0.08) = 0.00000234 and probability for the negative class = (0.6 * 0.16 * 0.06 * 0.06 * 0.15 * 0.11) = 0.0000057

here, probability for negative class is higher. So, the sentence "I always like foreign films" will assign to the negative class.

C) Testing on document: fast couple shoot fly Most likely class: action Probabilities: {'action': 0.5433395069662561, 'comedy': 0.22083605424630637, 'test': 0.23582443878743753}

D)