

1. priors:  $P(c) = \frac{3}{4}$   $P(j) = \frac{1}{4}$

Conditional:  $P(\text{Chinese} | c) = \frac{5+1}{10+6} = \frac{3}{8}$

$P(\text{Tokyo} | c) = \frac{0+1}{10+6} = \frac{1}{16}$

$P(\text{Japan} | c) = \frac{0+1}{10+6} = \frac{1}{16}$

$P(\text{Chinese} | j) = \frac{1+1}{3+6} = \frac{2}{9}$

$P(\text{Tokyo} | j) = \frac{1+1}{3+6} = \frac{2}{9}$

$P(\text{Japan} | j) = \frac{1+1}{3+6} = \frac{2}{9}$

test:  $P(c | \dots) \propto \frac{3}{4} \times \left(\frac{3}{8}\right)^3 \times \frac{1}{16} \times \frac{1}{16} \approx 1.54 \times 10^{-4}$

$P(j | \dots) \propto \frac{1}{4} \times \left(\frac{2}{9}\right)^3 \times \frac{2}{9} \times \frac{2}{9} \approx 1.35 \times 10^{-4}$

$\therefore$  预测为 c