$P(Y \mid SEA, ATL, \text{good weather}, \text{Southwest}) \propto P(Y)\,P(SEA \mid Y)\,P(ATL \mid Y)\,P(\text{good weather} \mid Y)\,P(\text{Southwest} \mid Y)$

$= 0.5 \times \frac{5}{9} \times \frac{1}{3} \times \frac{1}{3} \times \frac{4}{9}$

$= 0.01372$

or

$P(N \mid SEA, ATL, \text{good weather}, \text{Southwest}) \propto P(N)\,P(SEA \mid N)\,P(ATL \mid N)\,P(\text{good weather} \mid N)\,P(\text{Southwest} \mid N)$

$= 0.5 \times \frac{3}{7} \times \frac{4}{7} \times \frac{4}{7} \times \frac{3}{7}$

$= 0.02999$

$m = 4$

$P(SEA \mid Y) = \frac{3 + 4(0.5)}{5+4} = \frac{5}{9}$

$P(SEA \mid N) = \frac{1 + 4(0.5)}{3+4} = \frac{3}{7}$

$P(ATL \mid Y) = \frac{1 + 4(0.5)}{5+4} = \frac{3}{9} = \frac{1}{3}$

$P(ATL \mid N) = \frac{2 + 4(0.5)}{3+4} = \frac{4}{7}$

$P(\text{good weather} \mid Y) = \frac{1 + 4(0.5)}{5+4} = \frac{3}{9} = \frac{1}{3}$

$P(\text{good weather} \mid N) = \frac{2 + 4(0.5)}{3+4} = \frac{4}{7}$

$P(\text{southwest} \mid Y) = \frac{2 + 4(0.5)}{5+4} = \frac{4}{9}$

$P(\text{southwest} \mid N) = \frac{1 + 4(0.5)}{3+4} = \frac{3}{7}$

$\hat{y} = \text{argmax}\{0.01372, 0.02999\}$

$= 0.02999$

we classify SEA-ATL on southwest with good weather as N.