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

$= 0.5 \times 0.625 \times 0.4286^3$

$= \boxed{0.0246}$

or

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

$= 0.5 \times 0.375 \times 0.57143^3$

$= \boxed{0.0350}$

$m = 4$

$P(SEA \mid Y) = \frac{3 + 4(0.5)}{4+4} = 0.625$

$P(SEA \mid N) = \frac{1 + 4(0.5)}{4+4} = 0.375$

$P(ATL \mid Y) = \frac{1 + 4(0.5)}{3+4} = \frac{3}{7} = 0.4286$

$P(ATL \mid N) = \frac{2 + 4(0.5)}{3+4} = \frac{4}{7} = 0.57143$

$P(\text{good weather} \mid Y) = \frac{1 + 4(0.5)}{3+4} = 0.4286$

$P(\text{good weather} \mid N) = \frac{2 + 4(0.5)}{3+4} = 0.57143$

$P(\text{southwest} \mid Y) = \frac{2 + 4(0.5)}{3+4} = 0.4286$

$P(\text{southwest} \mid N) = \frac{1 + 4(0.5)}{3+4} = 0.57143$

$\hat{y} = \text{argmax}\{0.0246, 0.0350\}$

$= 0.0350$

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