

Homework 1

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CS 527
Fall 2014

Problem 1

Problem 2

$$\begin{aligned}P(c = 2|h = 1) &= \frac{P(h = 1|c = 2)P(c = 2)}{P(h = 1)} \\&= \frac{P(h = 1|c = 2)P(c = 2)}{P(h = 1|c = 2)P(c = 2) + P(h = 1|c = 1)P(c = 1)} \\&= \frac{0.8 \times 0.5}{0.8 \times 0.5 + 0.5 \times 0.5} \\&= \frac{0.4}{0.65} \\&\approx 0.615\end{aligned}$$