

Calculations for Question 3

$$P(B|F) = 0.85$$

$$P(B|F') = 0.74$$

$$P(F) = 0.08$$

F = fail in 12 months

B = predicted to go bankrupt

$$P(F|B) = \frac{P(B|F) \cdot P(F)}{P(B)}$$

$$= \frac{P(B|F) \cdot P(F)}{P(B|F) \cdot P(F) + P(B|F') \cdot P(F')}$$

$$= \frac{P(B|F) \cdot P(F)}{P(B|F) \cdot P(F) + P(B|F') \cdot P(F')}$$

$$= \frac{0.85 \times 0.08}{0.85 \times 0.08 + 0.26 \times 0.92} = 0.2214$$

