

Quiz 9.

1109

$$\text{info}(D) = I(2,3) = 0.971$$

1109
 $\text{info}_{\text{avg}}(D) = \frac{1}{5}I(1,0) + \frac{4}{5}I(3,1)$

$$= \frac{1}{5}\left(-\frac{1}{1}\log\frac{1}{1} - \frac{0}{1}\log\frac{0}{1}\right) + \frac{4}{5}\left(-\frac{3}{4}\log\frac{3}{4} - \frac{1}{4}\log\frac{1}{4}\right)$$

$$\leq 0 + 0.649$$

$$= 0.649$$

$$\text{Gain}(1109) = 0.971 - 0.649 =$$

base 0?

$$\text{info}(D) = I[2,3] = 0.971$$

1109
 $\text{info}(D) = \frac{3}{5}I(1,2) + \frac{2}{5}I(2,0)$

$$= \frac{3}{5}\left(-\frac{1}{3}\log\frac{1}{3} - \frac{2}{3}\log\frac{2}{3}\right) +$$

$$\frac{2}{5}\left(-\frac{2}{2}\log\frac{2}{2} - \frac{0}{2}\log\frac{0}{2}\right)$$

$$= 0.551$$

Gain(base 0) = 0.971 - 0.551
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