

$$P(1) = \frac{1}{4}, \quad P(0) = \frac{3}{4}$$

انسا

$$P(a|0) = \frac{I(\text{data}=a, c=0) + 1}{I(c=0) + 2} = \frac{4+1}{6+2} = \frac{5}{8}$$

$$P(b|0) = \frac{I(\text{data}=b, c=0) + 1}{I(c=0) + 4} = \frac{2+1}{6+2} = \frac{3}{8}$$

$$P(a|1) = \frac{I(\text{data}=a, c=1) + 1}{I(c=1) + 4} = \frac{0+1}{2+2} = \frac{1}{4}$$

$$P(b|1) = \frac{I(\text{data}=b, c=1) + 1}{I(c=1) + 4} = \frac{2+1}{2+2} = \frac{3}{4}$$

$$0: \frac{3}{4} \cdot \frac{3}{8} = 0.28$$

$$1: \frac{1}{4} \cdot \frac{3}{4} = 0.18$$

$\Rightarrow 0$

Data	Class
aabaa	0
b	0
bba	0
bbbb	1

$$0: \frac{3}{4} \cdot \frac{5}{8} \cdot \frac{5}{8} \cdot \frac{3}{8} \cdot \frac{5}{8} \cdot \frac{5}{8} = 0.04$$

$$1: \frac{1}{4} \cdot \frac{1}{4} \cdot \frac{1}{4} \cdot \frac{3}{4} \cdot \frac{1}{4} \cdot \frac{1}{4} = 0.0007$$

$\Rightarrow 0$

$$0: \frac{3}{4} \cdot \frac{3}{8} \cdot \frac{3}{8} \cdot \frac{5}{8} = 0.06$$

$$1: \frac{1}{4} \cdot \frac{3}{4} \cdot \frac{3}{4} \cdot \frac{1}{4} = 0.03$$

$\Rightarrow 0$

$$0: \frac{3}{4} \cdot \frac{3}{8} \cdot \frac{3}{8} \cdot \frac{3}{8} \cdot \frac{3}{8} = 0.015$$

$$1: \frac{1}{4} \cdot \frac{3}{4} \cdot \frac{3}{4} \cdot \frac{3}{4} \cdot \frac{3}{4} = 0.08$$

$\Rightarrow 1$

