3. $\frac{\partial \log Pr(<H,H,T,T,H>)}{\partial p}$ (Since log function is ↑) $= 0$

$$\Rightarrow \frac{\partial(3\log p + 2\log(1-p))}{\partial p} = 0$$

$$\Rightarrow \frac{3}{p} = \frac{2}{1-p} \Rightarrow p = 0.6$$

$\therefore Pr(<H,H,T,T,H>) = 0.6^3 \times 0.4^2 = 0.03456.$