Bernoulli Trial → Binomial Dist.

$$P([H,H,H,T]) = \binom{}{} \prod_{i=1}^{n} p^{y_i} \cdot (1-p)^{(1-y_i)} = \binom{}{} \; p \cdot p \cdot p \cdot (1-p)$$

likelihood $= P([H,H,H,T])$

log likelihood $= \log\left(P([H,H,H,T])\right)$

$$= \log(p) + \log(p) + \log(p) + \log(1-p) + \log\left(\binom{4}{n}\right)$$

$$\log(p^y) = y \cdot \log(p)$$