UCB

proportion +
$$\sqrt{\frac{2 \cdot \log(\text{total flips})}{\text{flips of this coin}}}$$

Forward problem

 $P(\#\ \mathrm{heads}\ \mathrm{out}\ \mathrm{of}\ \mathrm{n}\ \mathrm{flips}\ |\ \mathrm{certain}\ \mathrm{likelihood})$

Reverse problem

 $P(\text{likelihood} \mid \# \text{ heads out of n flips})$

 ${\bf Thompson}$