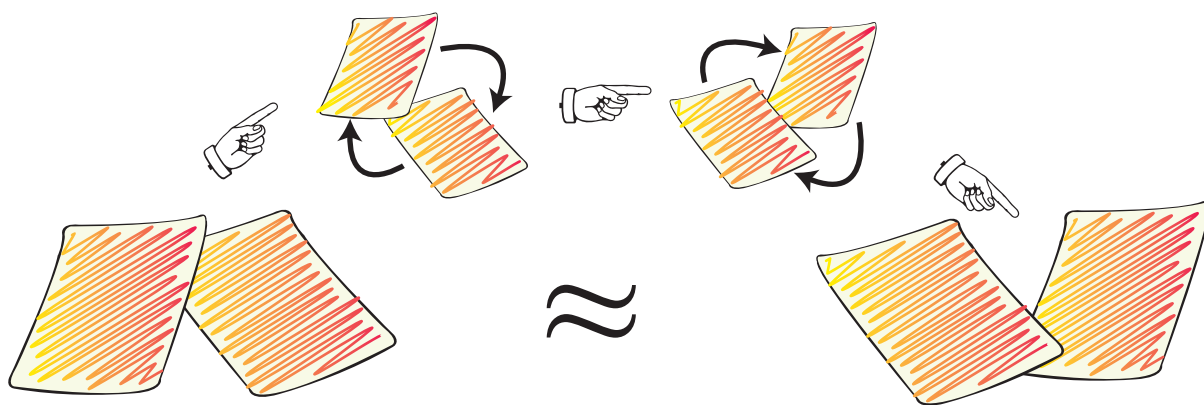
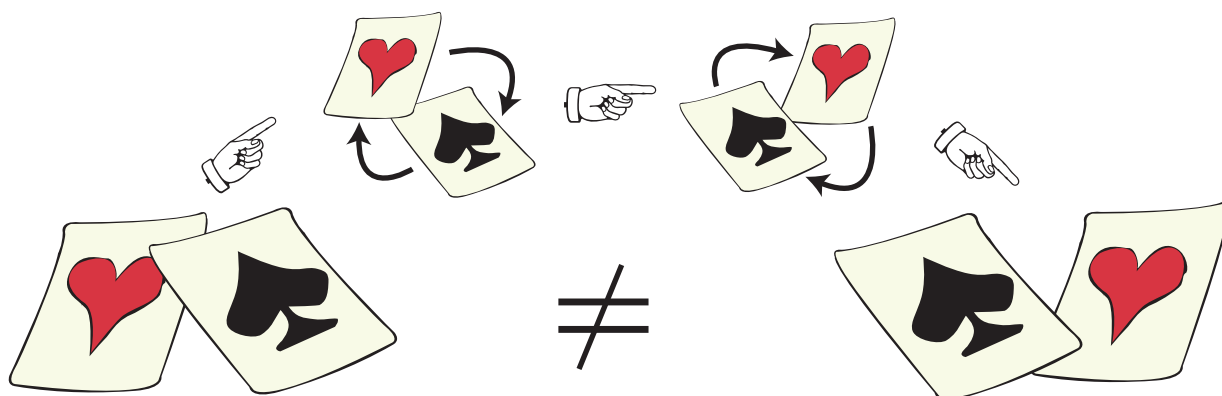


a)



b)



c)

$$\begin{aligned}
 & | \spadesuit \rangle_S | \diamondsuit \rangle_\varepsilon + | \heartsuit \rangle_S | \clubsuit \rangle_\varepsilon \\
 & \begin{array}{c} \text{Diagram showing a swap operation on the above state. A hand points to the top-left card (red heart), and curved arrows indicate a swap between the top-left and top-right cards. The resulting state is:} \\
 | \heartsuit \rangle_S | \diamondsuit \rangle_\varepsilon + | \spadesuit \rangle_S | \clubsuit \rangle_\varepsilon = | \spadesuit \rangle_S | \clubsuit \rangle_\varepsilon + | \heartsuit \rangle_S | \diamondsuit \rangle_\varepsilon \end{array}
 \end{aligned}$$