$$
\begin{tikzcd}
X \arrow[rr, leftrightarrow, bend left] \arrow[dr, dashed] & & X^* \arrow[dl] \\
& Y \arrow[r, leftrightarrow] \arrow[d] & Y^* \arrow[d, dashed] \\
& X_0 & Y_0^*
\end{tikzcd}
$$