

$$\begin{array}{ccc}
 F \circ G \hookrightarrow \mathcal{D} & \begin{array}{c} \xrightarrow{G} \\ \xleftarrow{F} \end{array} & \mathcal{J} \\
 \eta \searrow & H \downarrow & \\
 & \mathcal{C} &
 \end{array}$$