

$$\begin{array}{ccc}
 \mathbf{C}_1 & \xrightarrow[\text{Cat}]{f_1} & \mathbf{D}_1 \\
 \downarrow F \text{ Cat} & & \text{Cat} \uparrow G \\
 \mathbf{C}_2 & \xrightarrow[\text{Cat}]{f_2} & \mathbf{D}_2
 \end{array}$$