$$\underbrace{\begin{array}{c} a_{in} \\ s_0 \\ a_{out}! \end{array} \begin{array}{c} a_{in}? \\ s_2 \\ a_{out}? \end{array} \begin{array}{c} a_{out} \\ a_{out}? \\ a_{out}! \end{array} \begin{array}{c} a_{out} \\ a_{out}? \\ a_{out}? \\ a_{out}? \\ a_{out}? \\ a_{out} \\ a_{out}? \\ a_{out} \\ a_{out}? \\ a_{out} \\ a$$