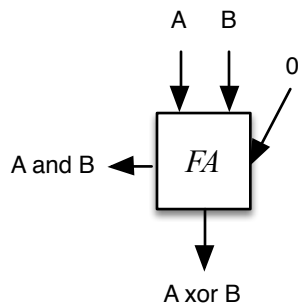


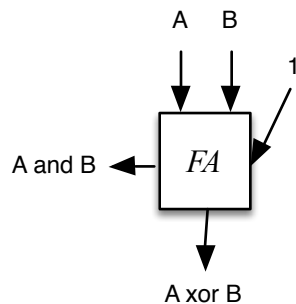
### 1) Uma entrada a 0



$$S = A \text{ xor } B \text{ xor } 0 = A \text{ xor } B \quad \text{XOR-2}$$

$$\text{Cout} = AB + A0 + B0 = AB \quad \text{AND-2}$$

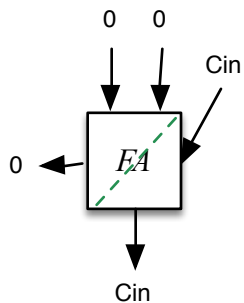
### 2) Uma entrada a 1



$$S = A \text{ xor } B \text{ xor } 1 = (A \text{ xor } B)' \quad \text{XNOR-2}$$

$$\text{Cout} = AB + A1 + B1 = AB + A + B = A + B \quad \text{OR-2}$$

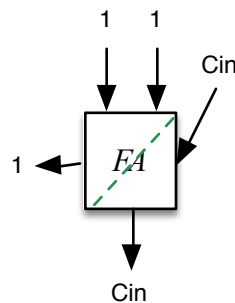
### 3) Duas entrada a 0



$$S = 0 \text{ xor } 0 \text{ xor } \text{Cin} = \text{Cin} \quad \text{Follower}$$

$$\text{Cout} = 00 + 0\text{Cin} + 0\text{Cin} = 0 \quad \text{'0'}$$

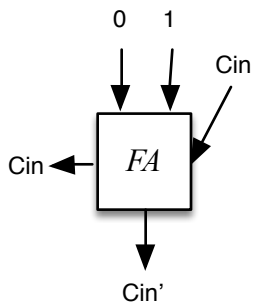
### 4) Duas entrada a 1



$$S = 1 \text{ xor } 1 \text{ xor } \text{Cin} = \text{Cin} \quad \text{Follower}$$

$$\text{Cout} = 11 + 1\text{Cin} + 1\text{Cin} = 1 \quad \text{'1'}$$

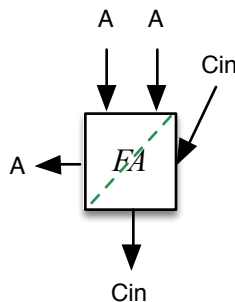
### 5) Uma entrada a 0 e outra a 1



$$S = 0 \text{ xor } 1 \text{ xor } \text{Cin} = \text{Cin}' \quad \text{Inverter}$$

$$\text{Cout} = 01 + 0\text{Cin} + 1\text{Cin} = \text{Cin} \quad \text{Follower}$$

### 6) Duas entradas iguais



$$S = A \text{ xor } A \text{ xor } \text{Cin} = \text{Cin} \quad \text{Follower}$$

$$\text{Cout} = AA + A\text{Cin} + A\text{Cin} = A(1 + \text{Cin}) = A \quad \text{Follower}$$