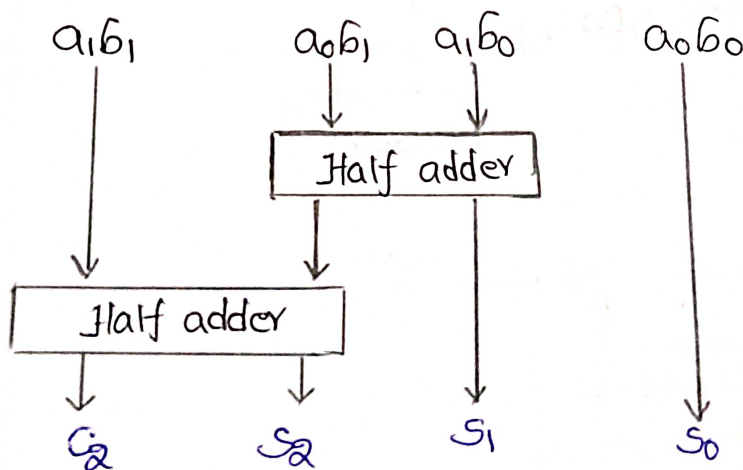


## 2 bit vedic Multiplier

$$\begin{array}{r} a_1 \\ | \\ b_1 \end{array} \quad \begin{array}{r} a_1 \quad a_0 \\ \times \quad \times \\ b_1 \quad b_0 \end{array} \quad \begin{array}{r} a_0 \\ | \\ b_0 \end{array}$$

$$a_1 a_0 \times b_1 b_0 = c_2 s_2 s_1 s_0$$



### 4 bit Vedic Multiplier :

Step-1

$$\begin{array}{c} \textcircled{a_3 a_2} a_1 a_0 \\ \textcircled{b_3 b_2} b_1 b_0 \\ \downarrow \\ q_3 \end{array}$$

Step-2

$$\begin{array}{c} \textcircled{a_3 a_2} a_1 a_0 \\ b_3 b_2 \textcircled{b_1 b_0} \\ \downarrow \\ q_2 \end{array}$$

Step-3

$$\begin{array}{c} a_3 a_2 \textcircled{a_1 a_0} \\ \textcircled{b_3 b_2} b_1 b_0 \\ \downarrow \\ q_1 \end{array}$$

Step-4

$$\begin{array}{c} a_3 a_2 \textcircled{a_1 a_0} \\ b_3 b_2 \textcircled{b_1 b_0} \\ \downarrow \\ q_0 \end{array}$$

$q_3$



$q_2$

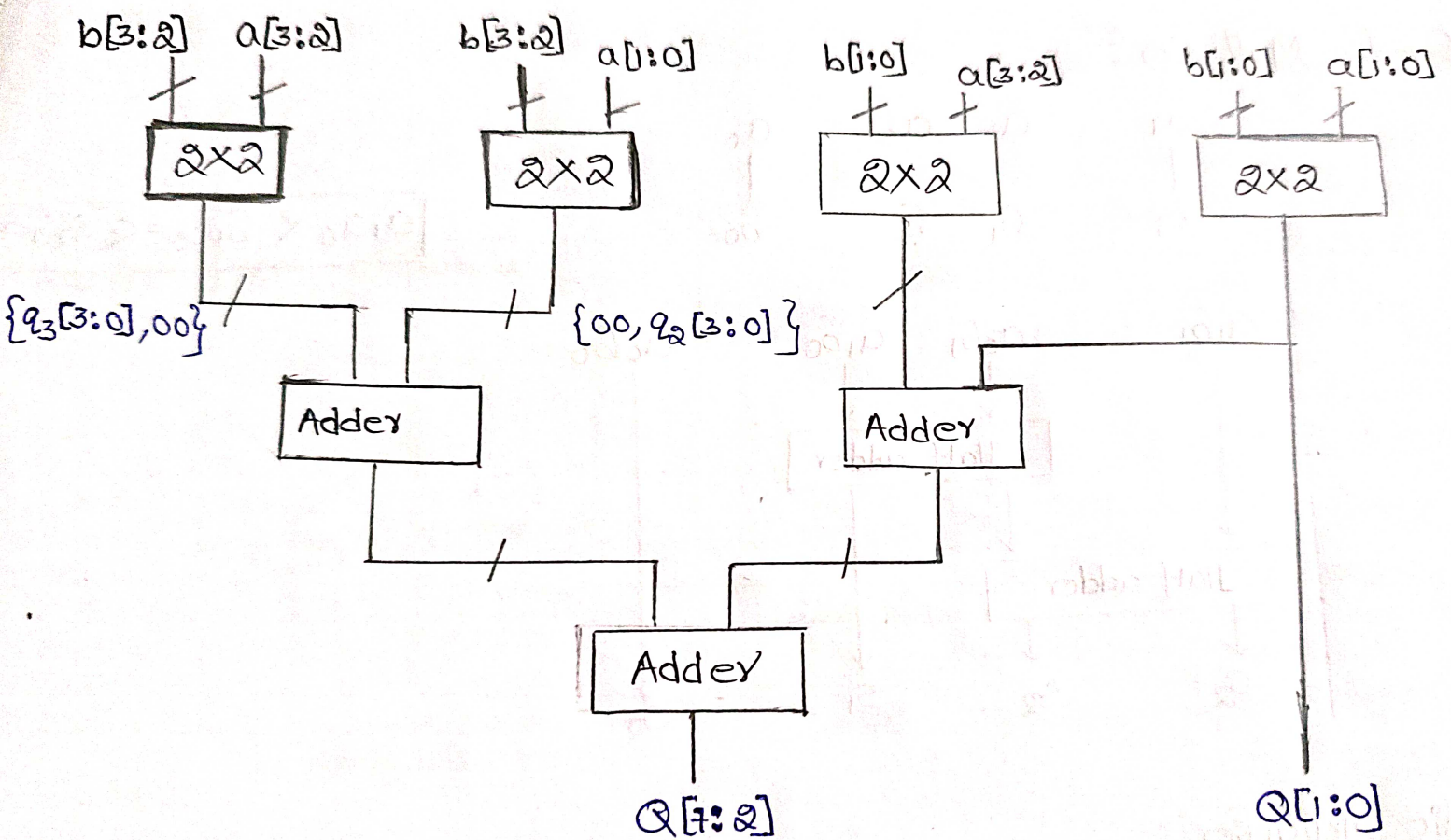


$q_1$



$q_0$





## 8 bit Multiplier :

$a_7 a_6 a_5 a_4 a_3 a_2 a_1 a_0$   
 $b_7 b_6 b_5 b_4 b_3 b_2 b_1 b_0$

$a_7 a_6 a_5 a_4 a_3 a_2 a_1 a_0$   
 $b_7 b_6 b_5 b_4 b_3 b_2 b_1 b_0$

$a_7 a_6 a_5 a_4 a_3 a_2 a_1 a_0$   
 $b_7 b_6 b_5 b_4 b_3 b_2 b_1 b_0$

$a_7 a_6 a_5 a_4 a_3 a_2 a_1 a_0$   
 $b_7 b_6 b_5 b_4 b_3 b_2 b_1 b_0$

