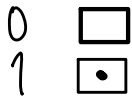
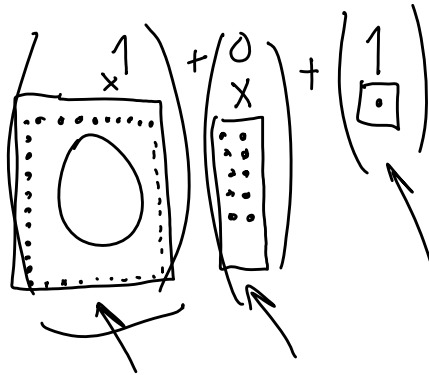
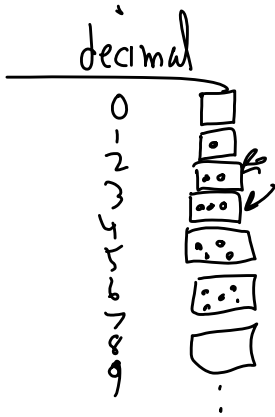
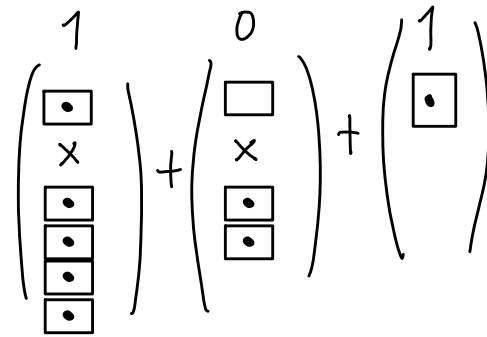


Positional notation

binary digits (characters)



101



$d_2 d_1 d_0$

$1 \ 0 \ 1$
 $b_3 \ b_1 \ b_0$

$$d_2 \times 10^2 + d_1 \times 10^1 + d_0 \times 10^0$$

$$1 \times 10^2 + 0 \times 10^1 + 1 \times 10^0$$

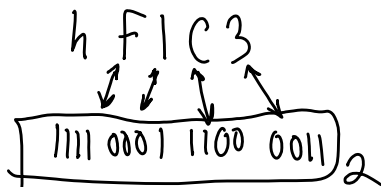
101_{10}

$$b_3 \times 2^2 + b_1 \times 2^1 + b_0 \times 2^0$$

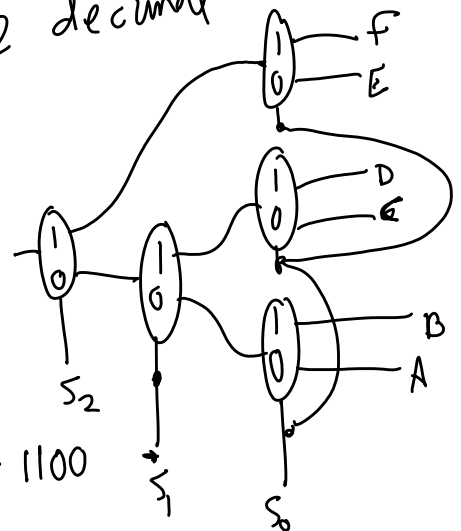
$$1 \times 2^2 + 0 \times 2^1 + 1 \times 2^0$$

$$4 + 0 + 1 = 5$$

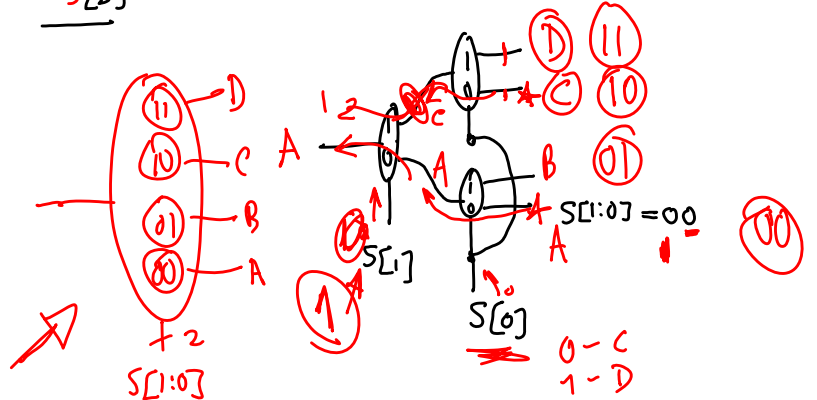
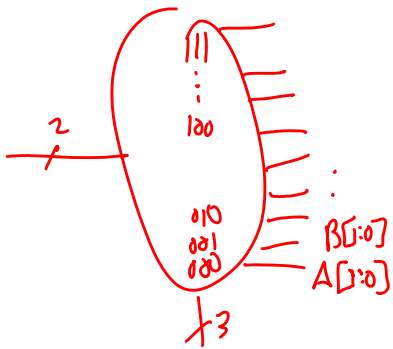
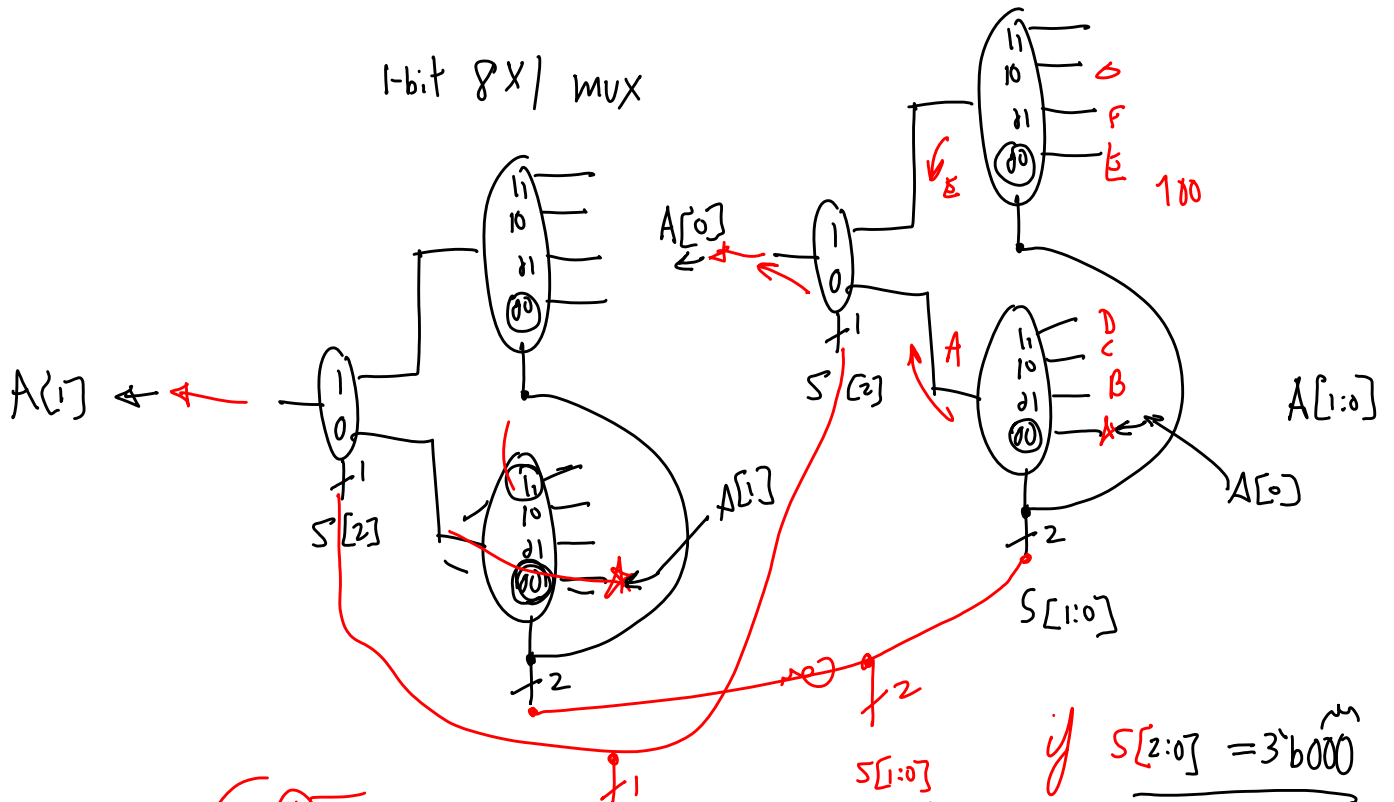
complicated way to go from binary to decimal



A	10_{10}	
B	11_{10}	
C	12_{10}	$\rightarrow 1100$
D	13_{10}	
E	14_{10}	
F	15_{10}	$\rightarrow 1111$



1-bit 8x1 MUX



Symbol → circuit

