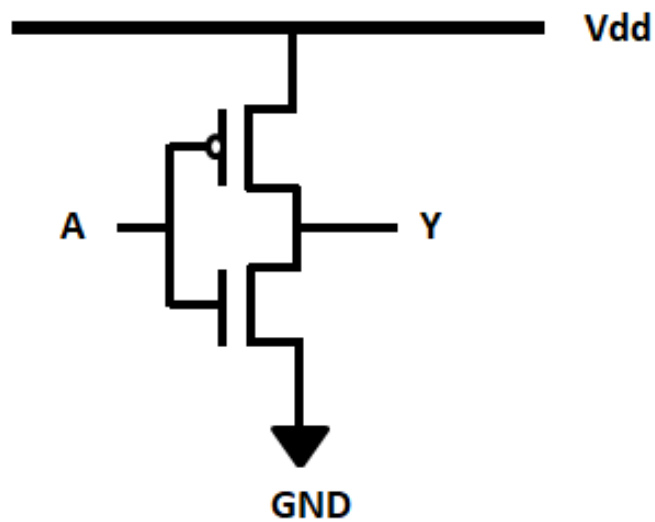


## ASSIGNMENT 3 RAPOR

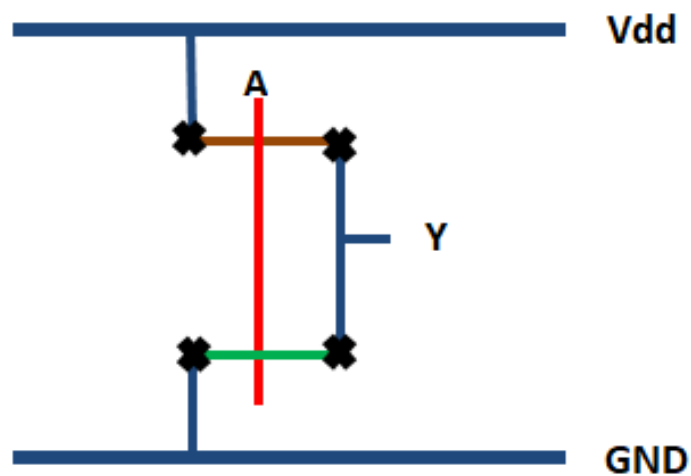
```
gtusvy@debian: ~  
gtusvy@debian: ~ 80x24  
gtusvy@debian:~$ magic -T SCN3ME_SUBM.30
```

### - INV

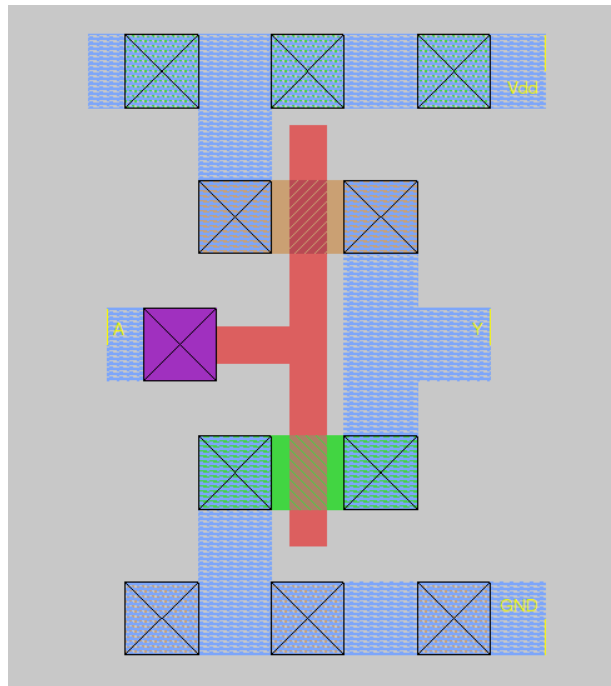
- Schematic



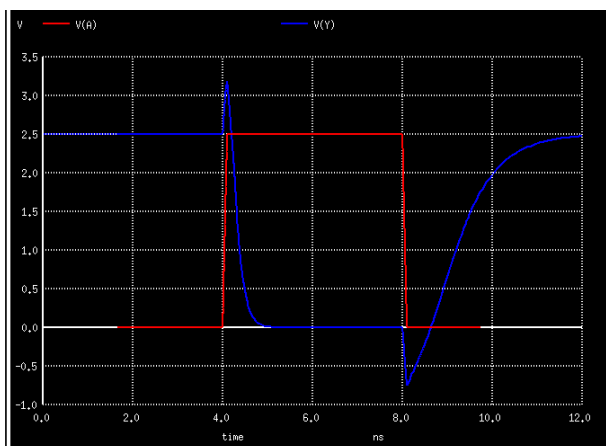
- Stick Diagram



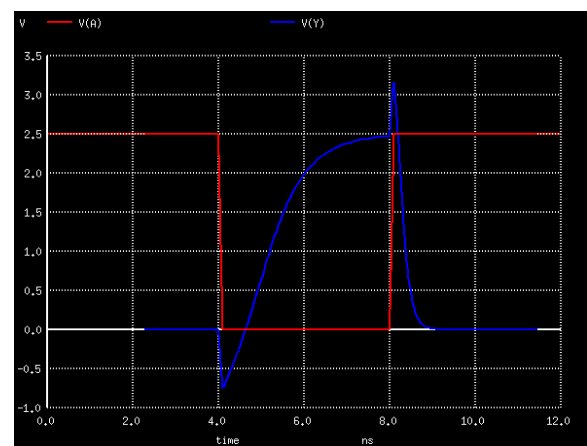
- **Magic Layout**



- **Spice Plots**



$A=1 \Rightarrow Y=0$



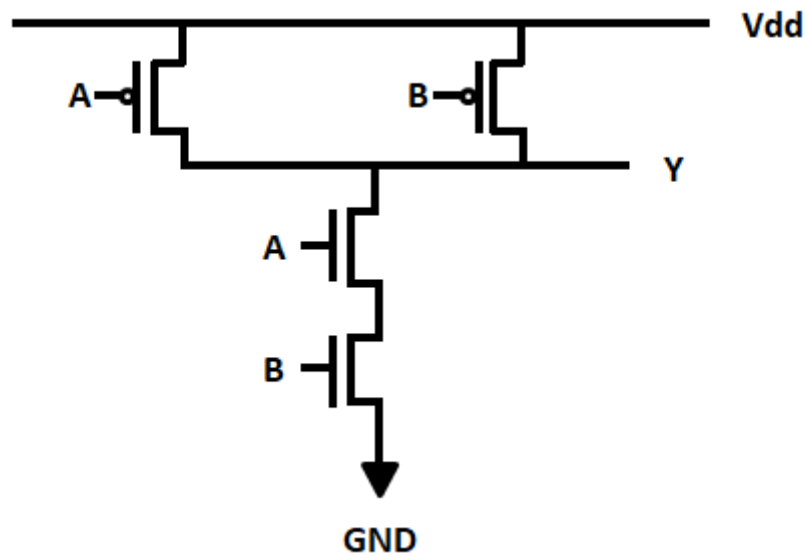
$A=0 \Rightarrow Y=1$

- **Cell Size**

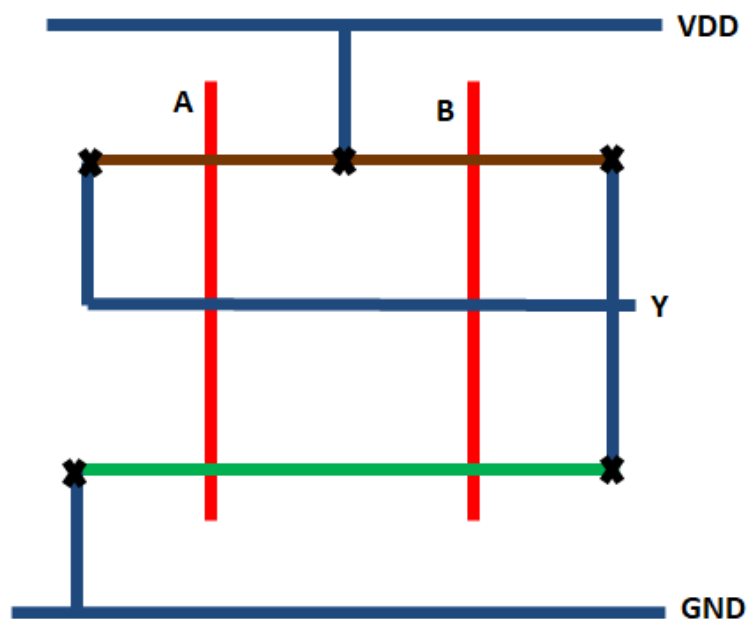
width=  $2 \times 8\lambda = 16\lambda$   
height=  $5 \times 8\lambda = 40\lambda$

## - NAND2

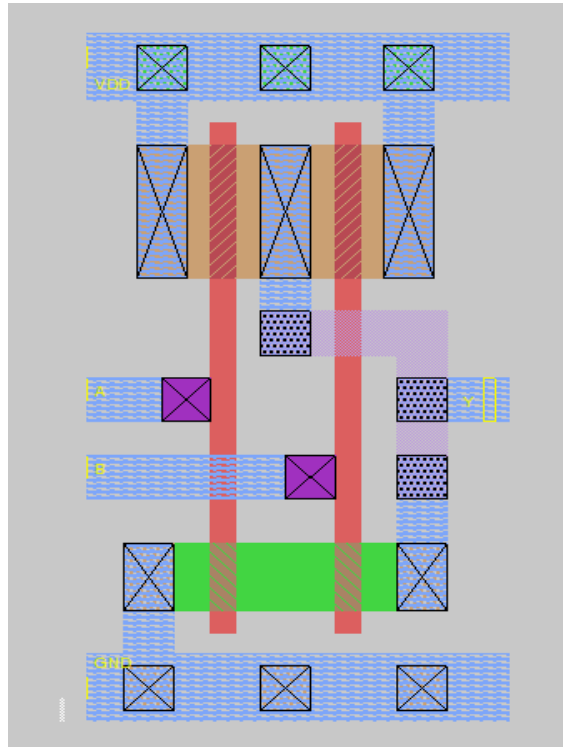
- Schematic



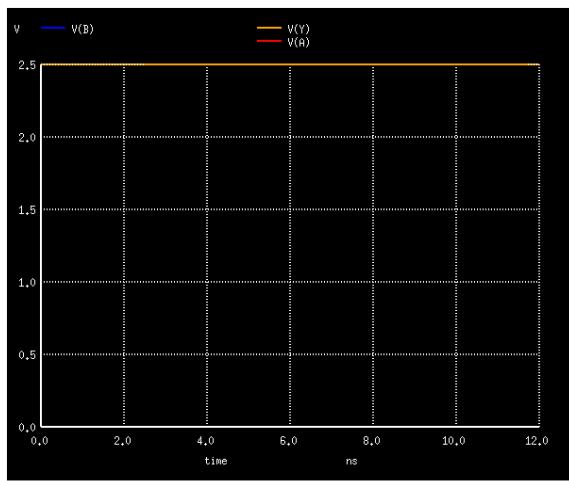
- Stick Diagram



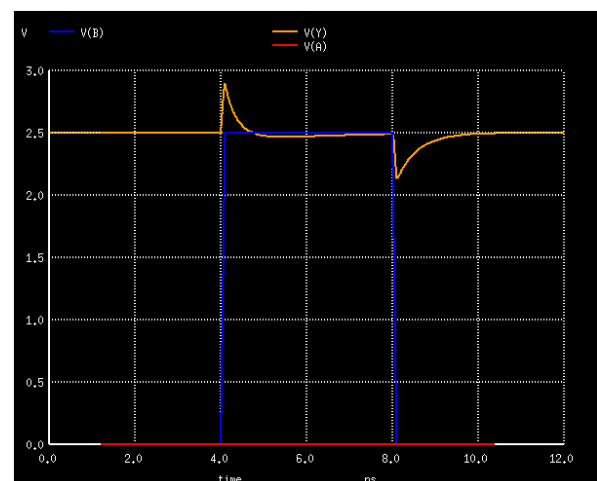
- Magic Layout



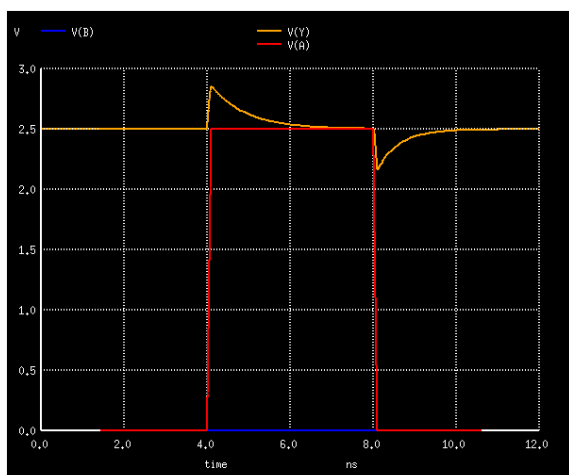
- Spice Plots



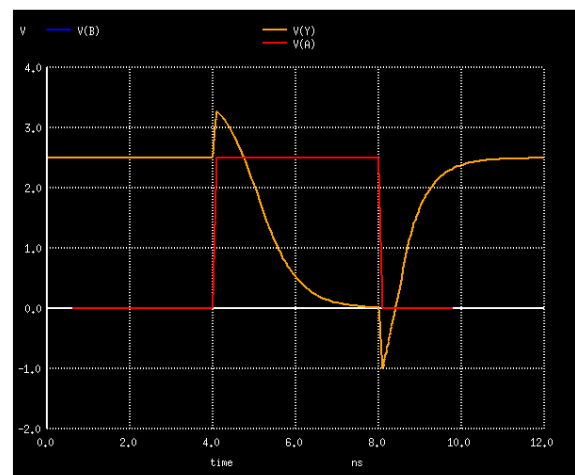
A=0, B=0  $\Rightarrow$  Y=1



A=0, B=1  $\Rightarrow$  Y=1



A=1, B=0  $\Rightarrow$  Y=1



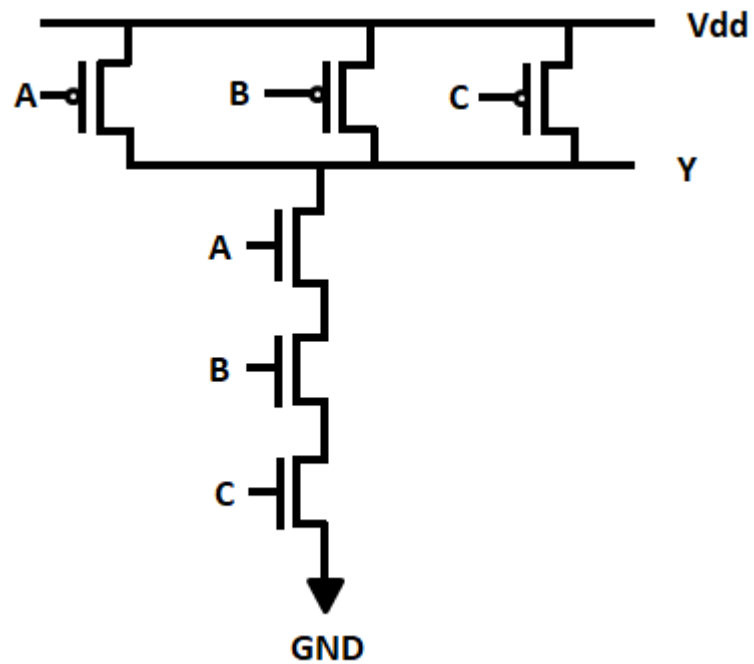
A=1, B=1  $\Rightarrow$  Y=0

- Cell Size

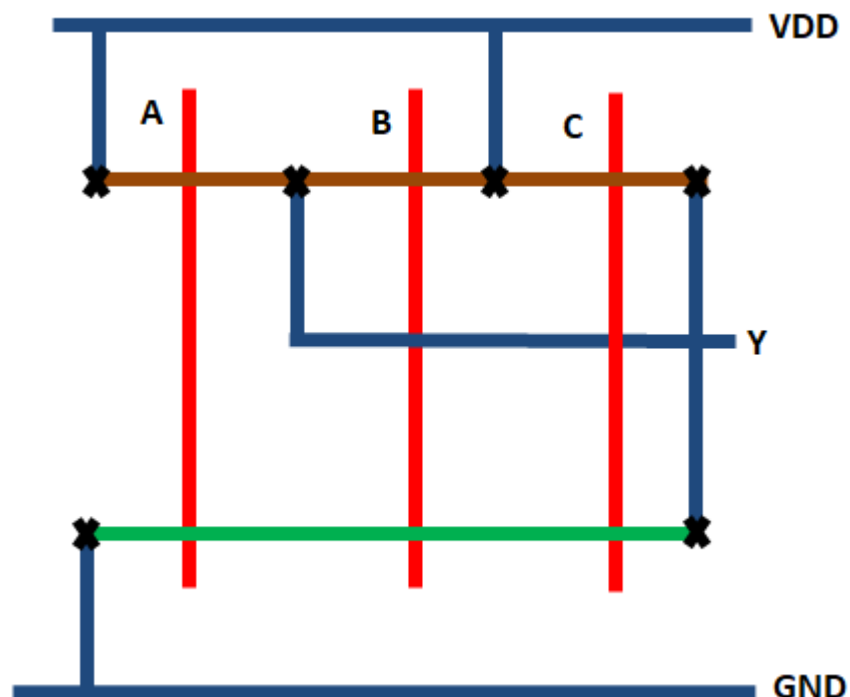
width=  $3 \times 8\lambda = 24\lambda$   
height=  $5 \times 8\lambda = 40\lambda$

## - NAND3

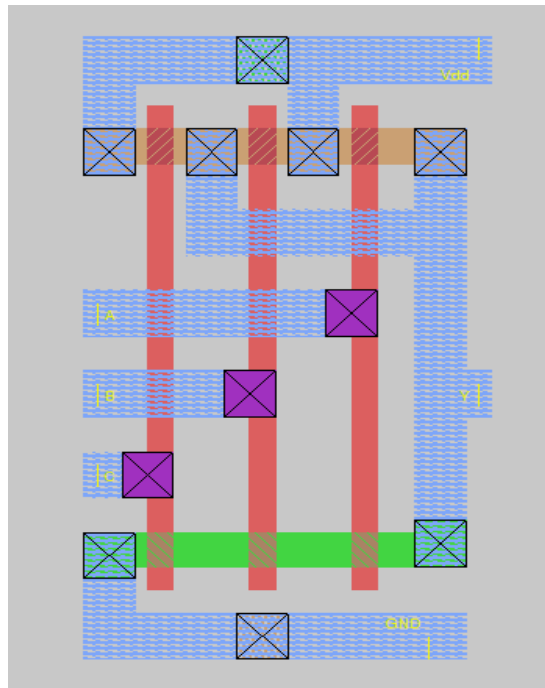
- Schematic



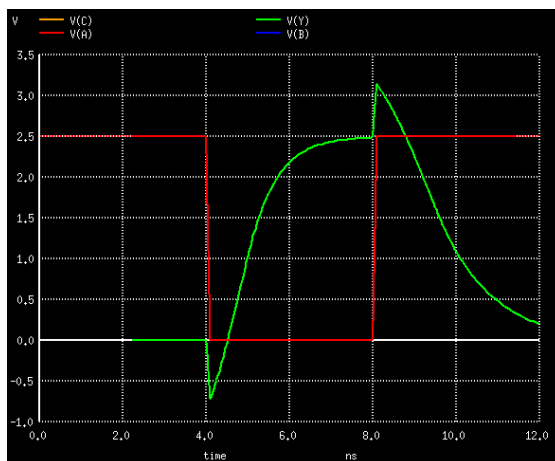
- Stick Diagram



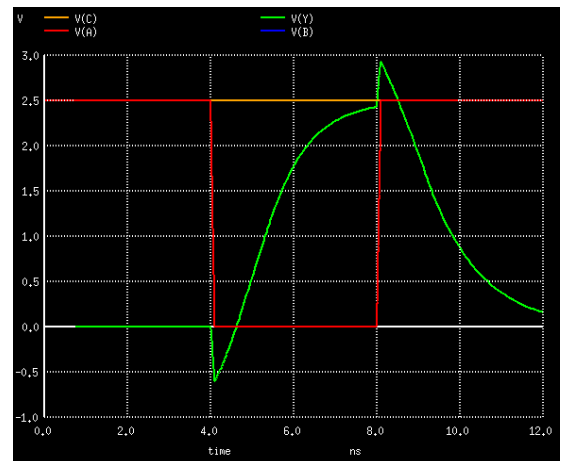
- Magic Layout



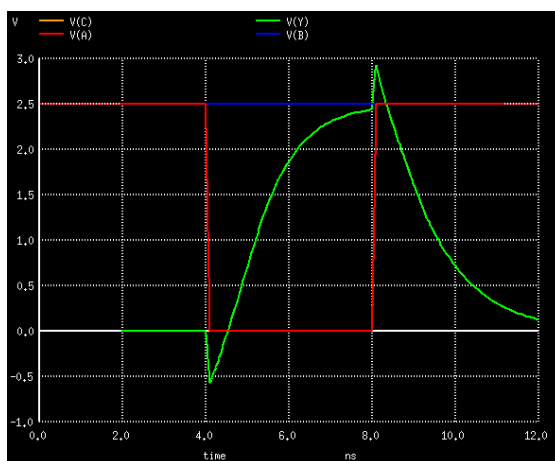
- Spice Plots



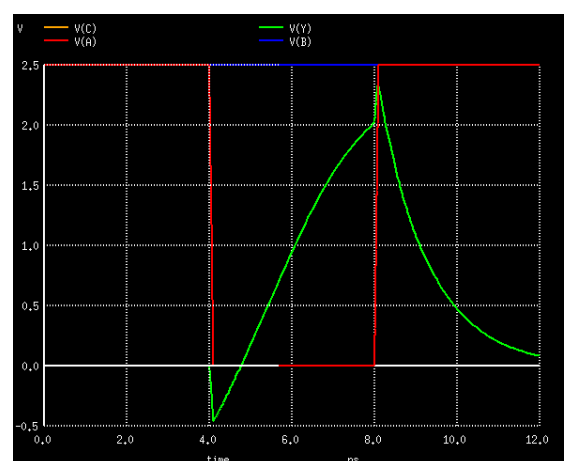
A=0, B=0, C=0  $\Rightarrow$  Y=1



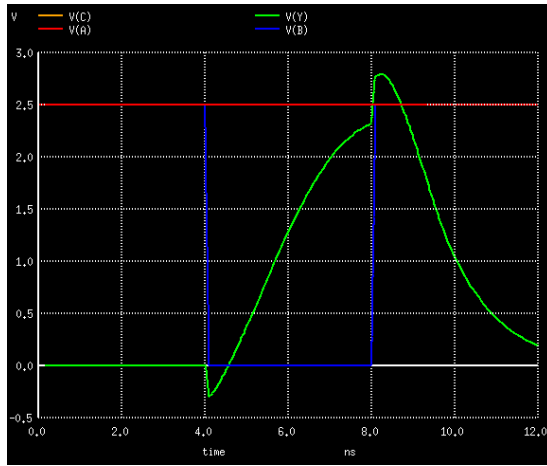
A=0, B=0, C=1  $\Rightarrow$  Y=1



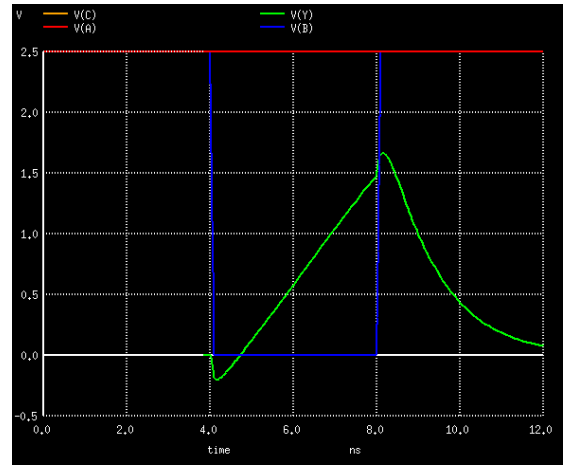
A=0, B=1, C=0  $\Rightarrow$  Y=1



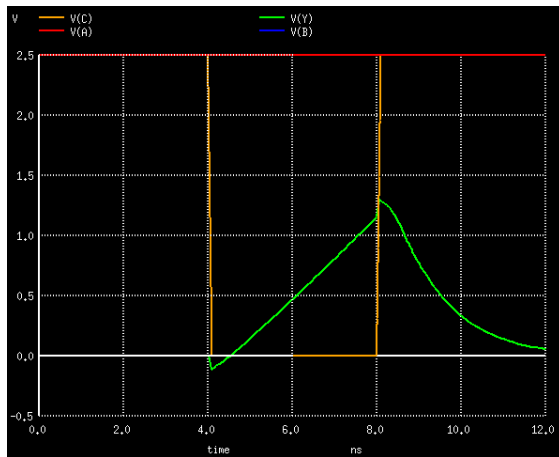
A=0, B=1, C=1  $\Rightarrow$  Y=1



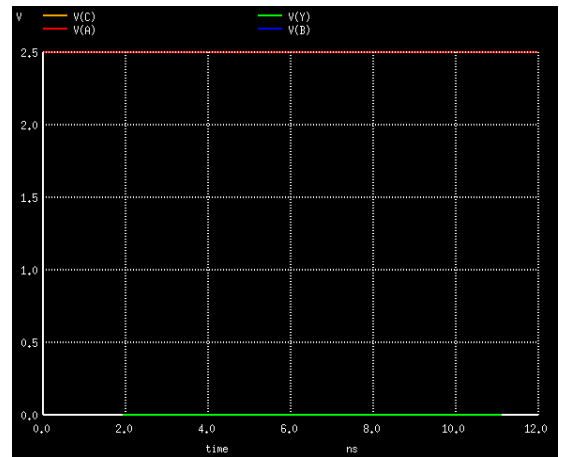
A=1, B=0, C=0  $\Rightarrow$  Y=1



A=1, B=0, C=1  $\Rightarrow$  Y=1



A=1, B=1, C=0  $\Rightarrow$  Y=1



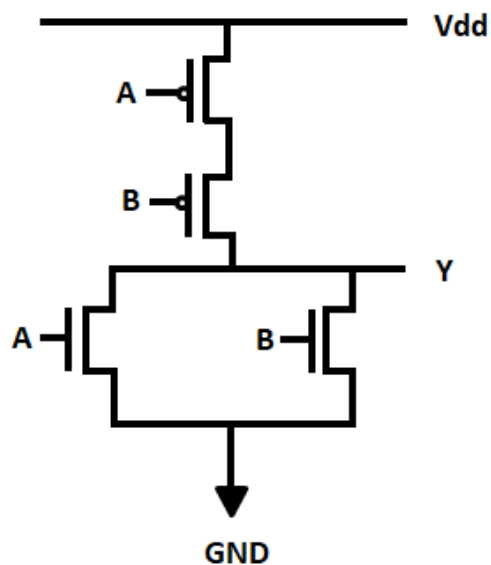
A=1, B=1, C=1  $\Rightarrow$  Y=0

- Cell Size

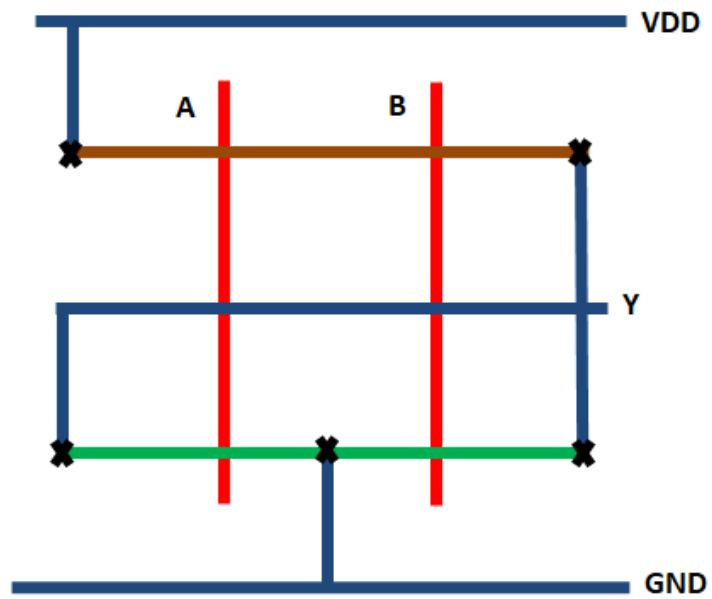
width=  $4 \times 8\lambda = 32\lambda$   
height=  $5 \times 8\lambda = 40\lambda$

## - NOR2

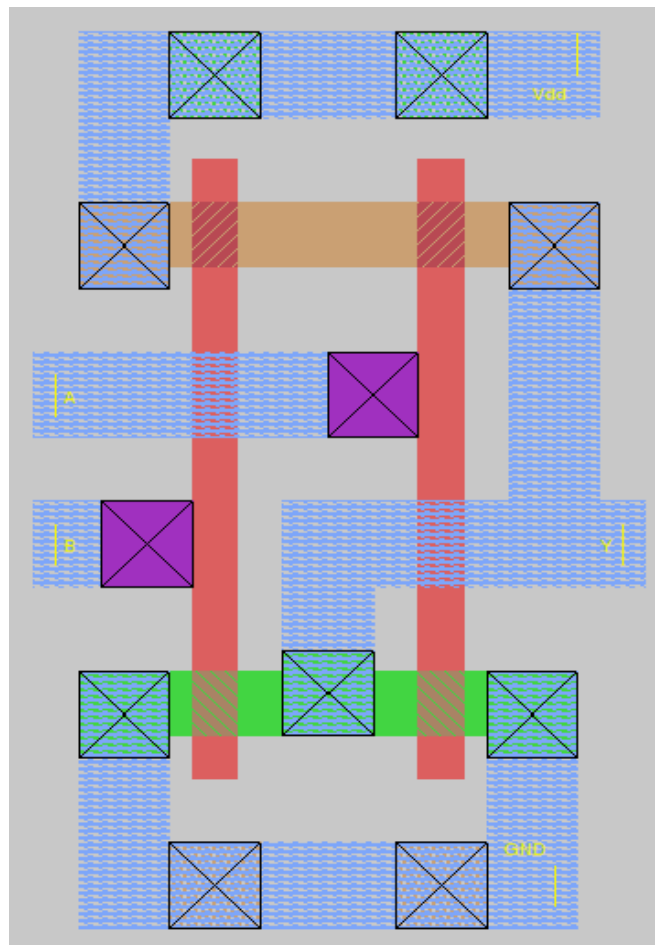
- Schematic



- Stick Diagram

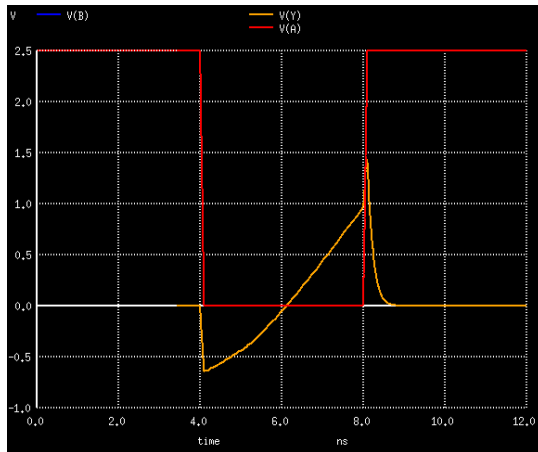


- Magic Layout

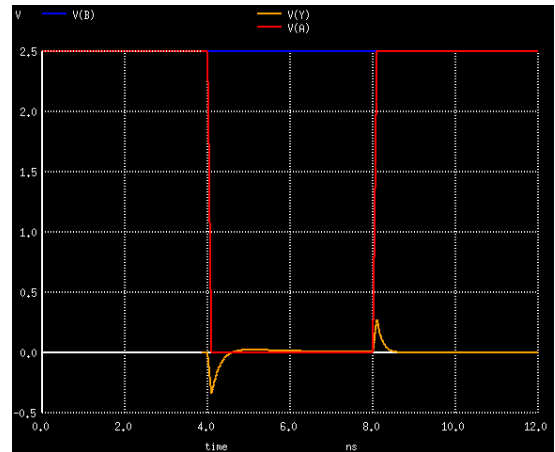




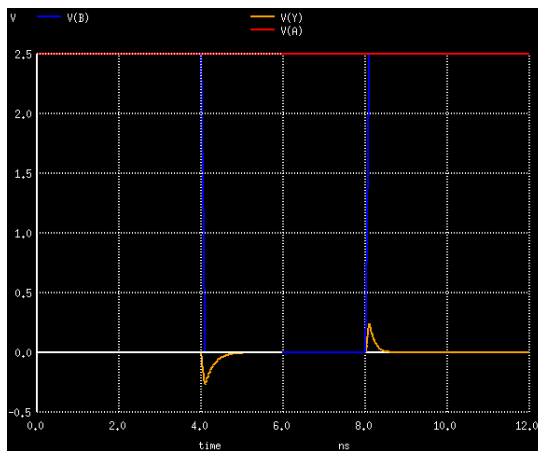
- **Spice Plots**



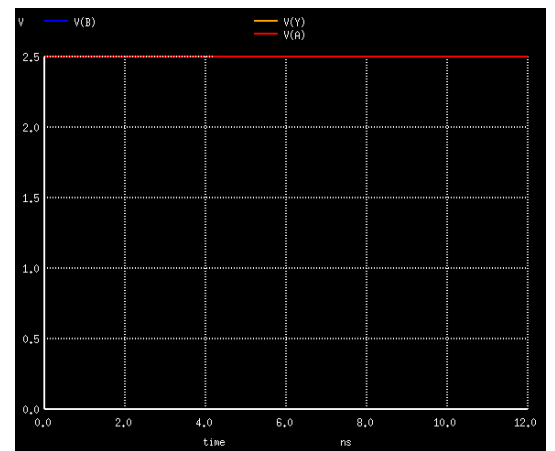
A=0, B=0  $\Rightarrow$  Y=1



A=0, B=1  $\Rightarrow$  Y=0



A=1, B=0  $\Rightarrow$  Y=0



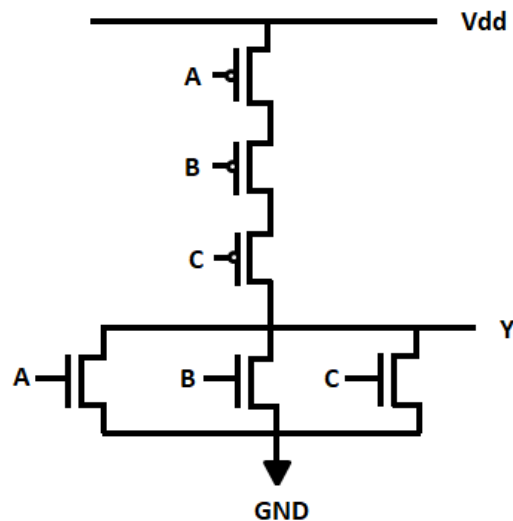
A=1, B=1  $\Rightarrow$  Y=0

- **Cell Size**

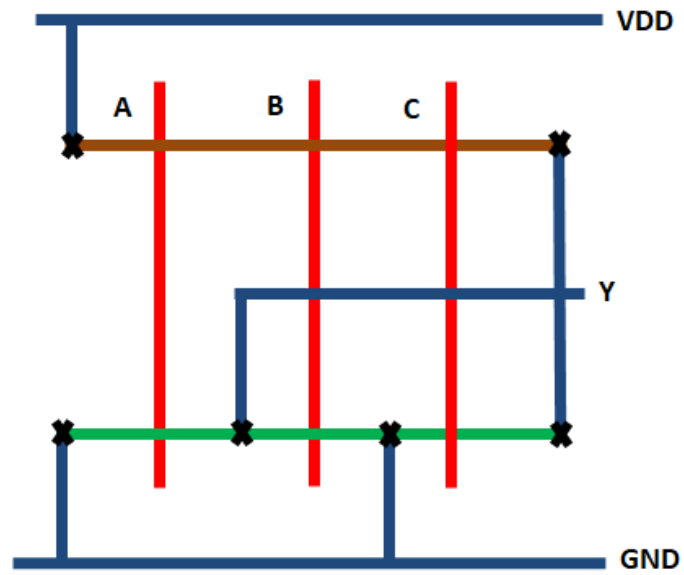
width=  $3 \times 8\lambda = 24\lambda$   
height=  $5 \times 8\lambda = 40\lambda$

## - NOR3

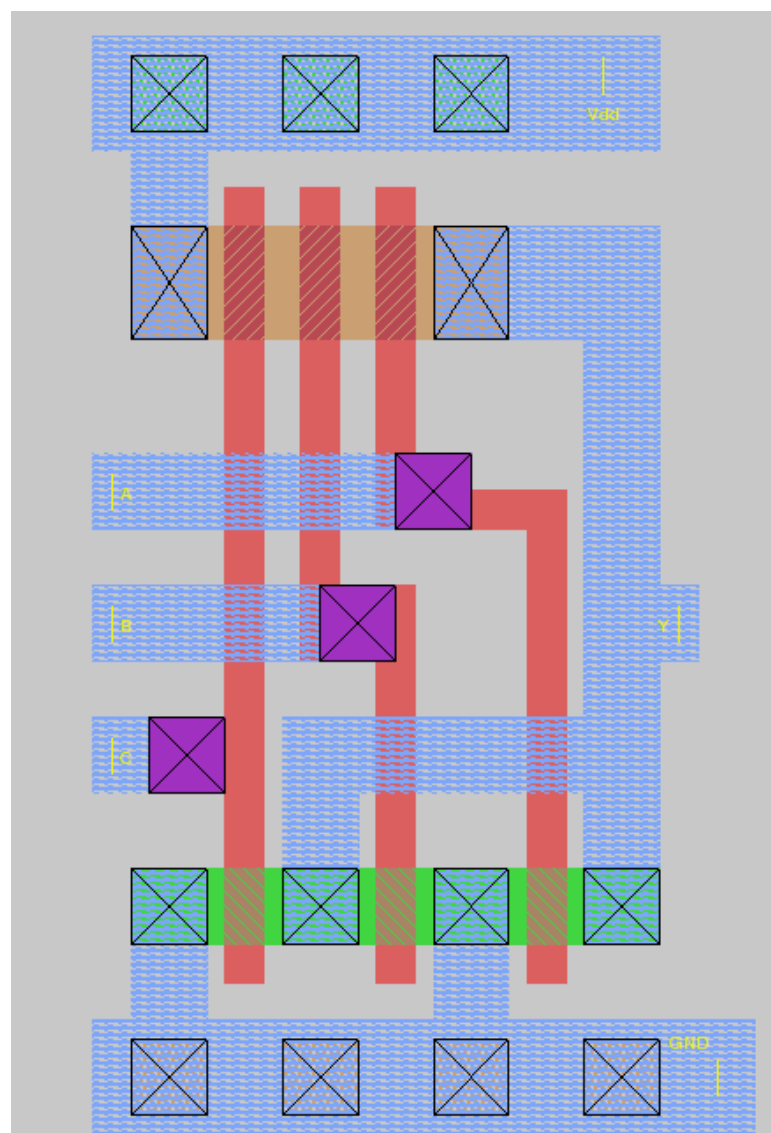
- **Schematic**



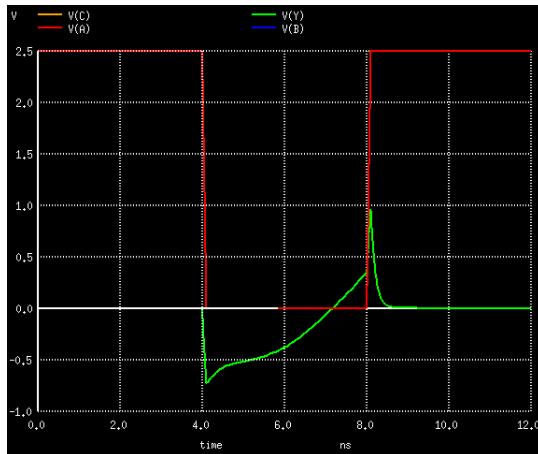
- Stick Diagram



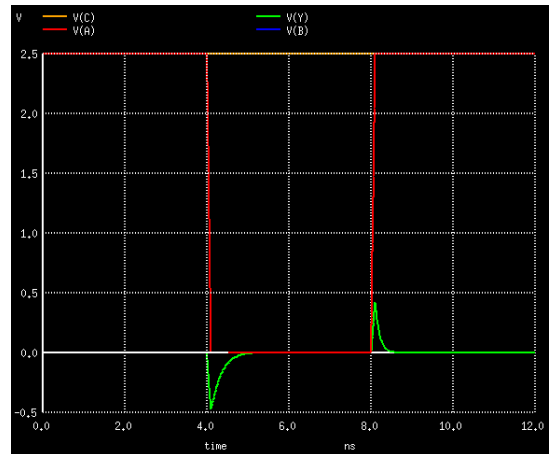
- Magic Layout



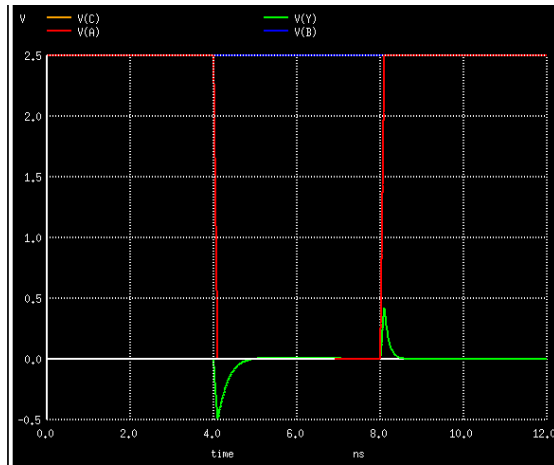
- Spice Plots



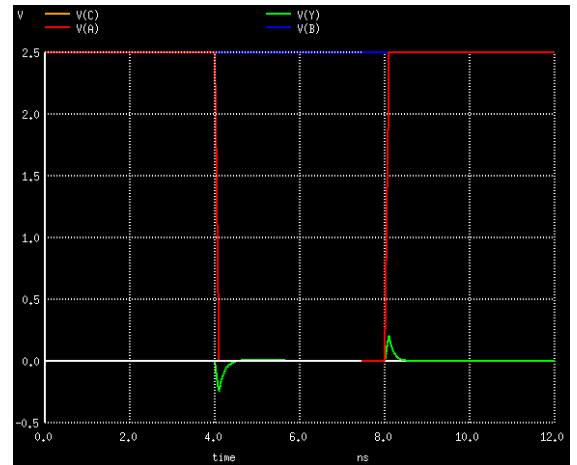
A=0, B=0, C=0  $\Rightarrow$  Y=1



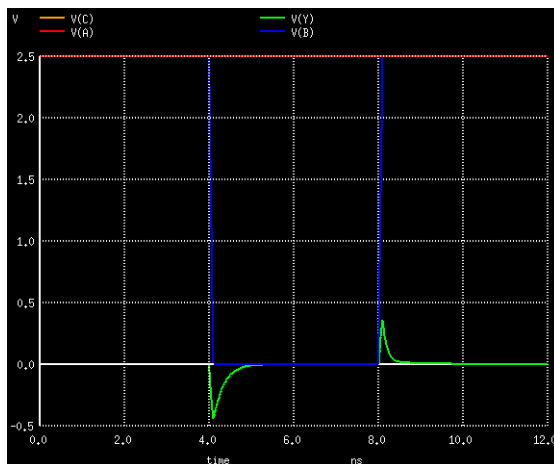
A=0, B=0, C=1  $\Rightarrow$  Y=0



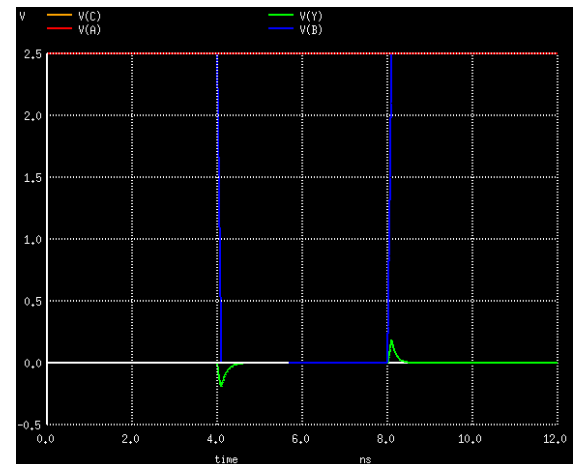
A=0, B=1, C=0  $\Rightarrow$  Y=0



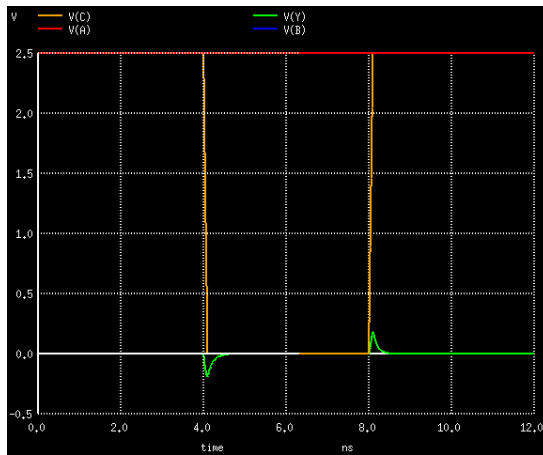
A=0, B=1, C=1  $\Rightarrow$  Y=0



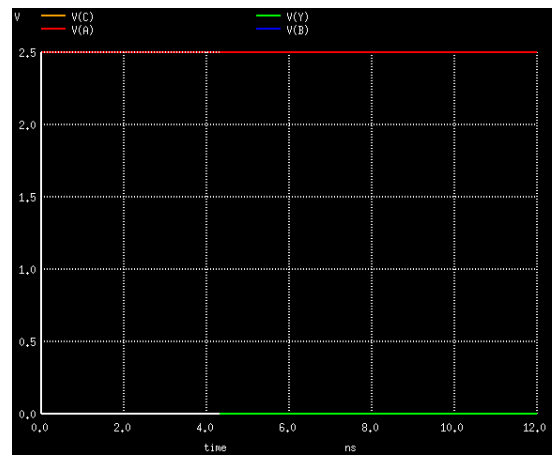
A=1, B=0, C=0  $\Rightarrow$  Y=0



A=1, B=0, C=1  $\Rightarrow$  Y=0



A=1, B=1, C=0  $\Rightarrow$  Y=0



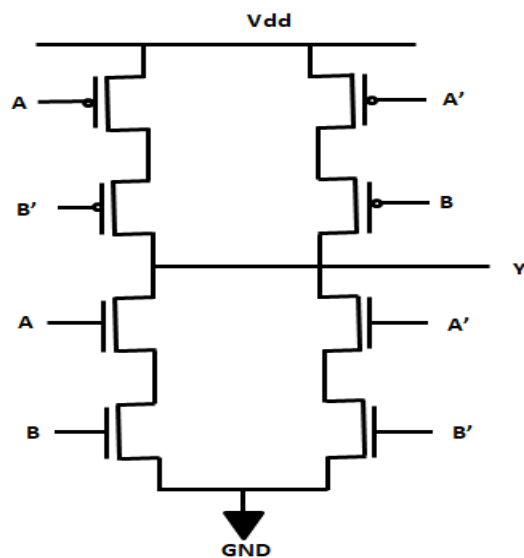
A=1, B=1, C=1  $\Rightarrow$  Y=0

- Cell Size

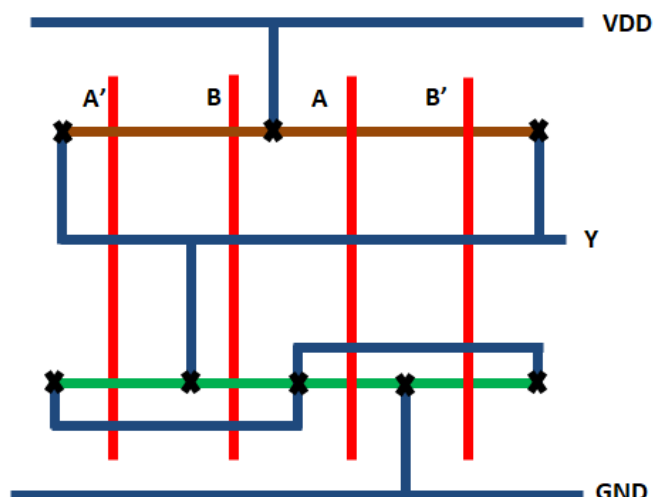
width=  $4 \times 8\lambda = 32\lambda$   
height=  $5 \times 8\lambda = 40\lambda$

## - XOR2

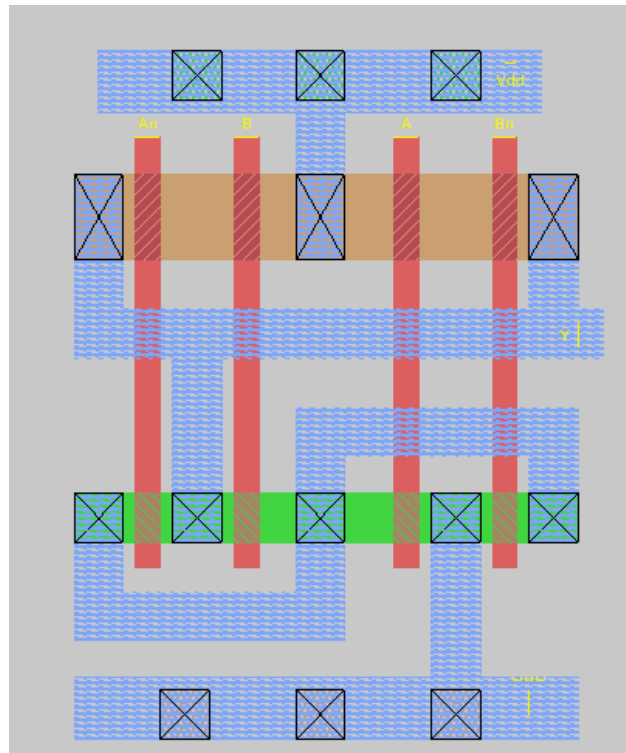
- Schematic



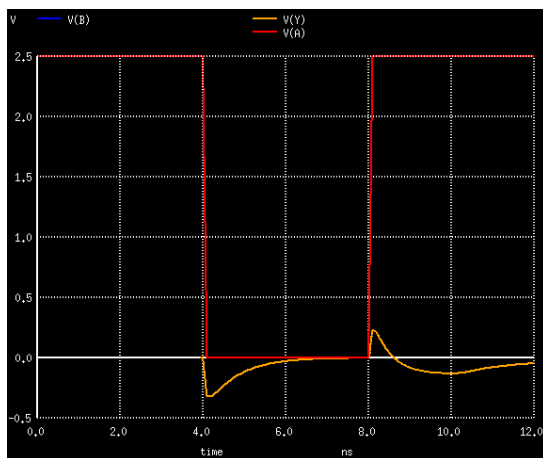
- Stick Diagram



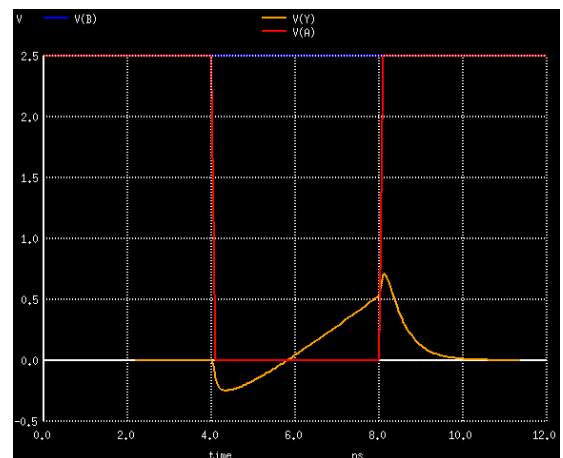
- **Magic Layout**



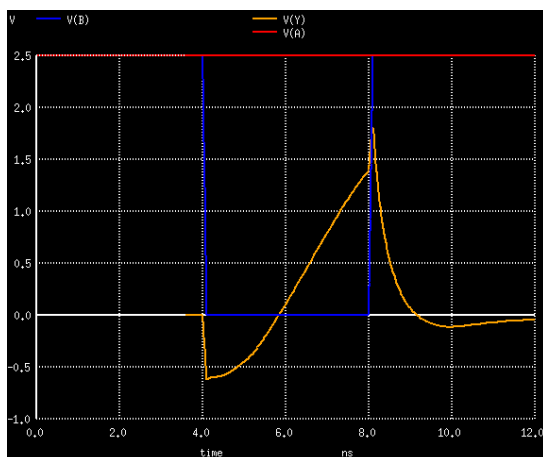
- **Spice Plots**



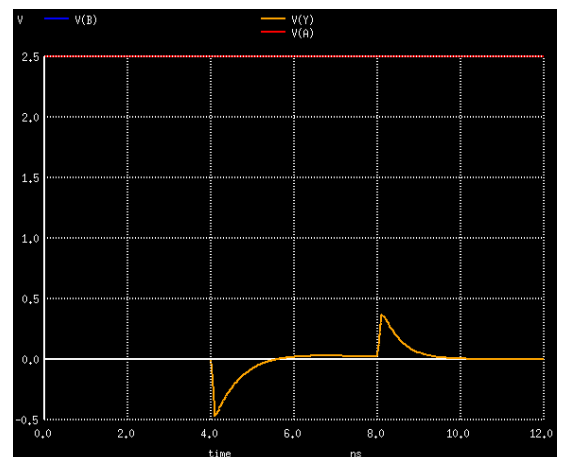
A=0, B=0  $\Rightarrow$  Y=0



A=0, B=1  $\Rightarrow$  Y=1



A=1, B=0  $\Rightarrow$  Y=1



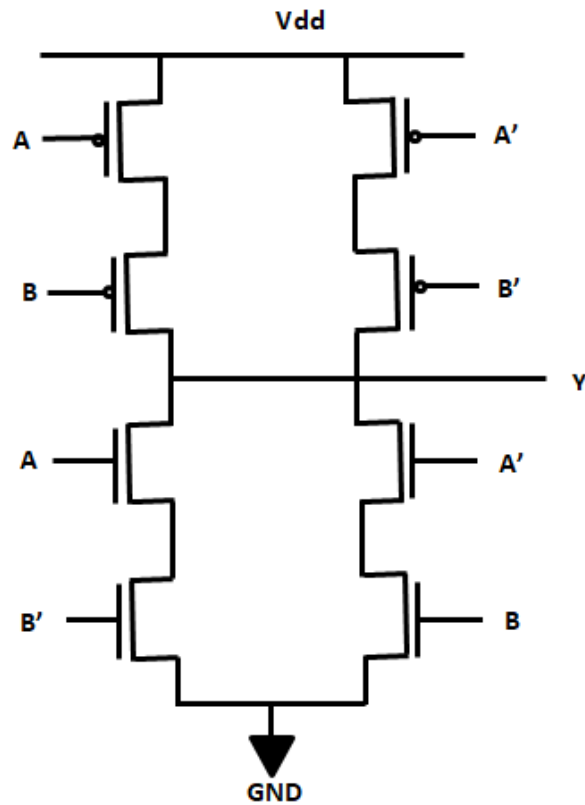
A=1, B=1  $\Rightarrow$  Y=0

- Cell Size

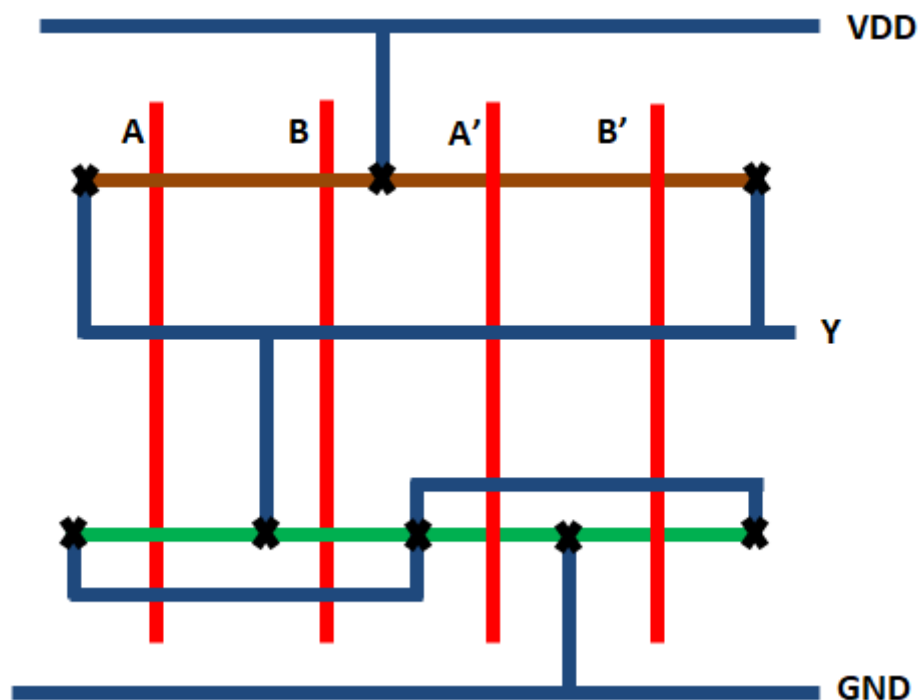
width=  $5 \times 8\lambda = 40\lambda$   
height=  $7 \times 8\lambda = 56\lambda$

## - XNOR2

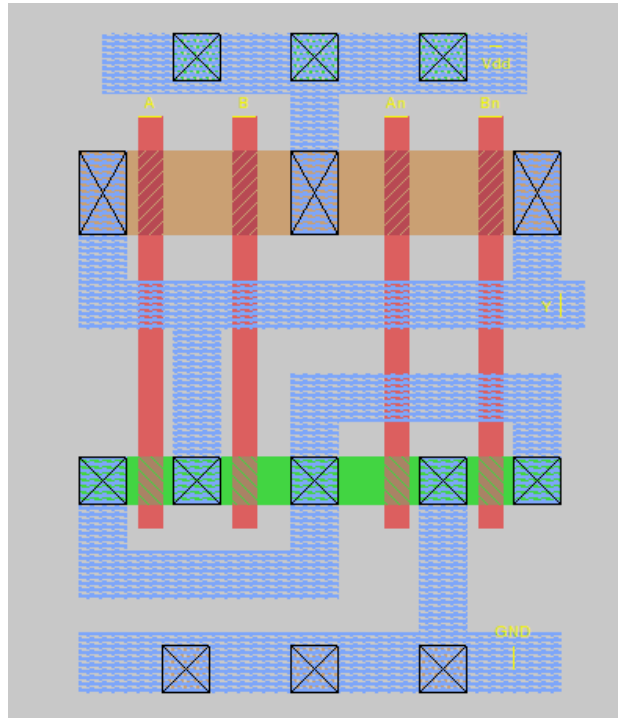
- Schematic



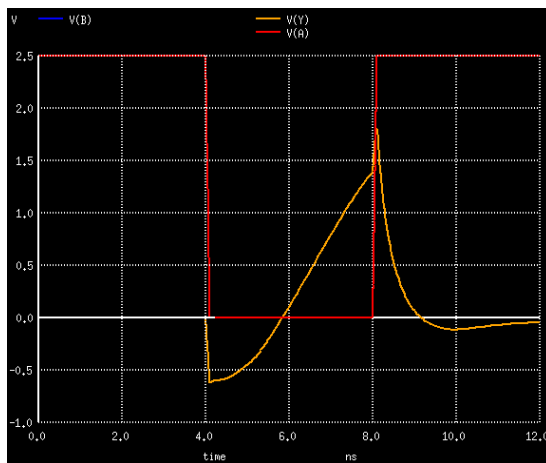
- Stick Diagram



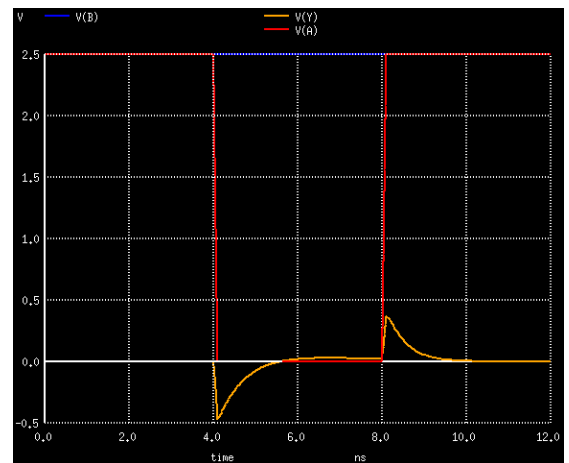
- **Magic Layout**



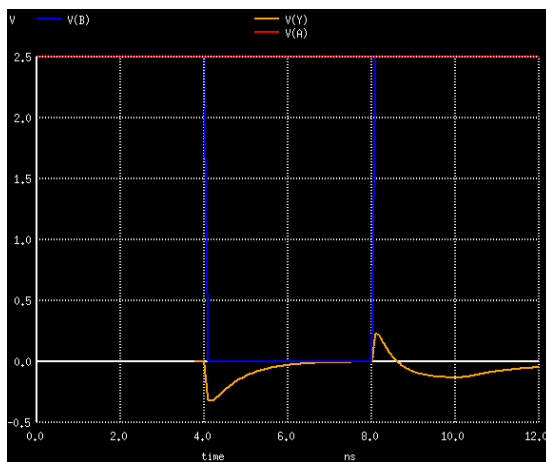
- **Spice Plots**



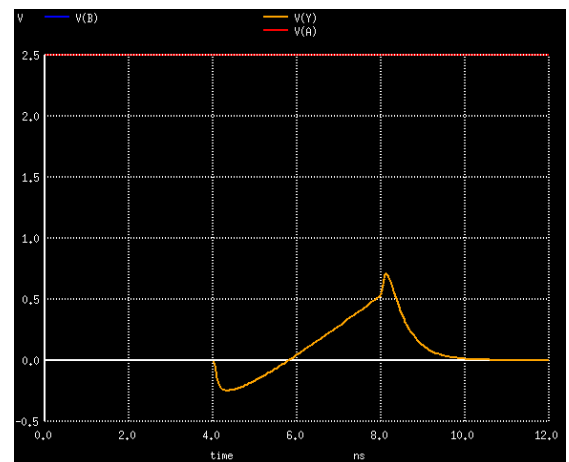
A=0, B=0  $\Rightarrow$  Y=1



A=0, B=1  $\Rightarrow$  Y=0



A=1, B=0  $\Rightarrow$  Y=0



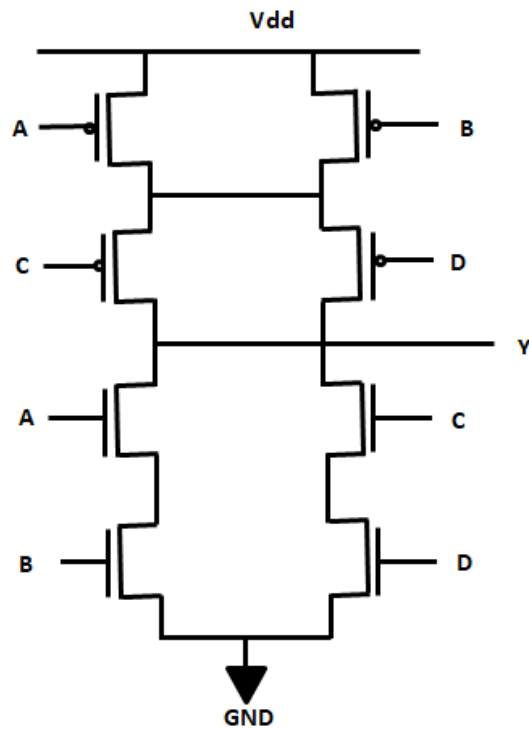
A=1, B=1  $\Rightarrow$  Y=1

- Cell Size

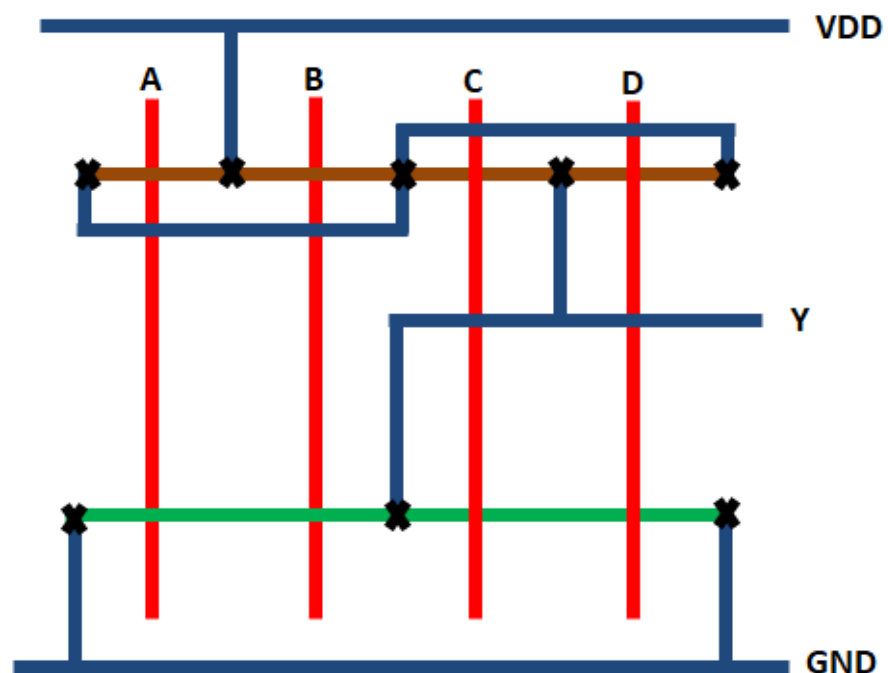
width=  $5 \times 8\lambda = 40\lambda$   
height=  $7 \times 8\lambda = 56\lambda$

## - AOI22

- Schematic

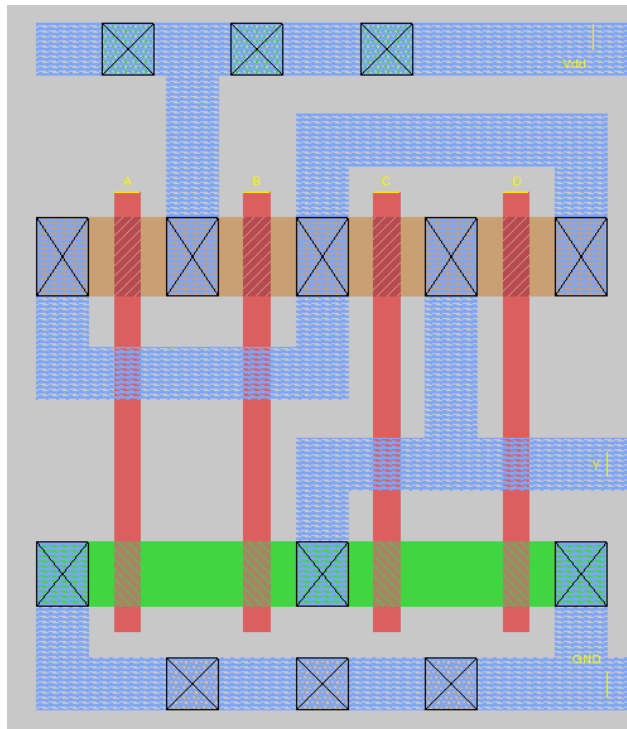


- Stick Diagram

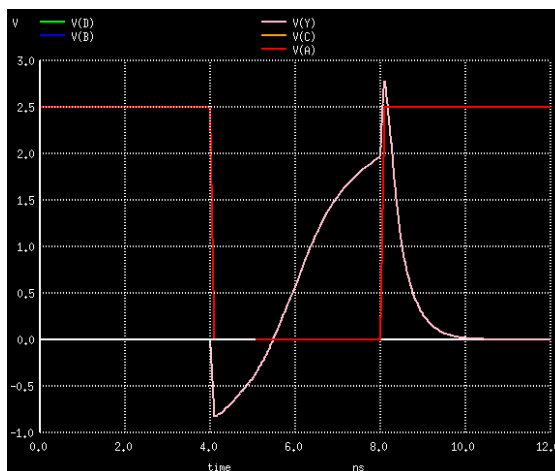




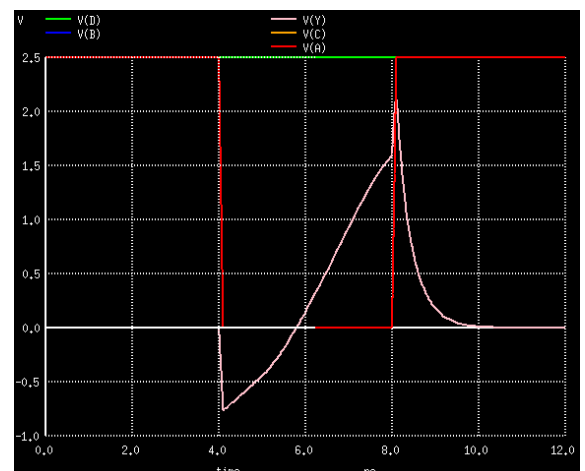
- **Magic Layout**



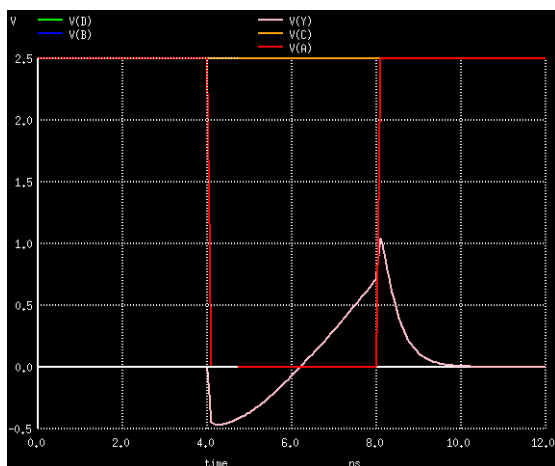
- **Spice Plots**



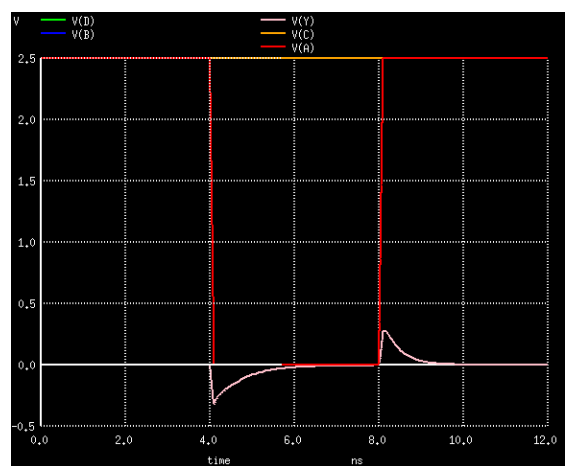
A=0, B=0, C=0, D=0 ➡ Y=1



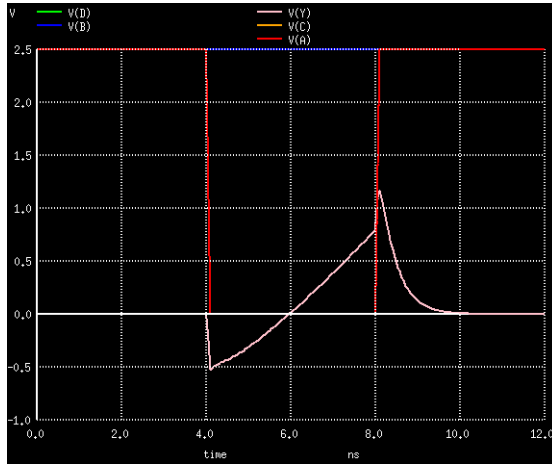
A=0, B=0, C=0, D=1 ➡ Y=1



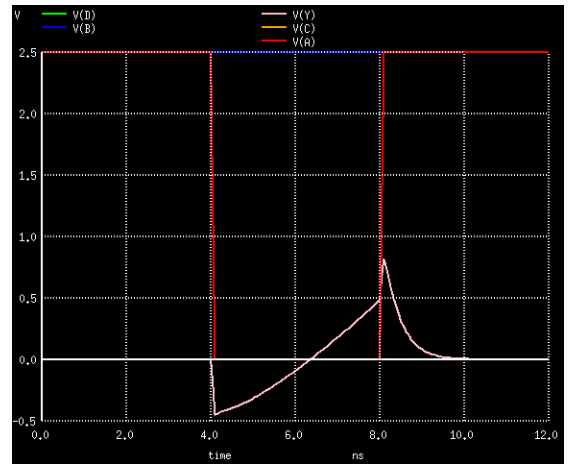
A=0, B=0, C=1, D=0 ➡ Y=1



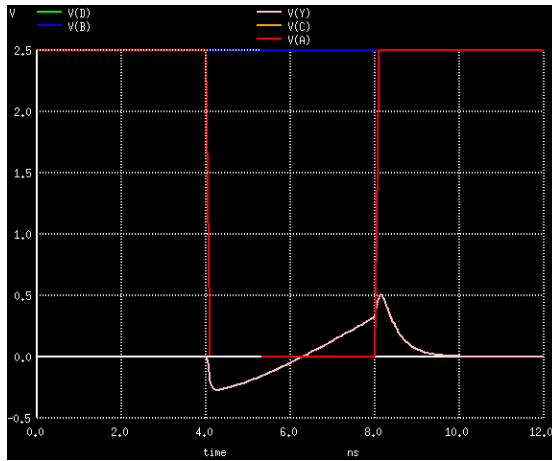
A=0, B=0, C=1, D=1 ➡ Y=0



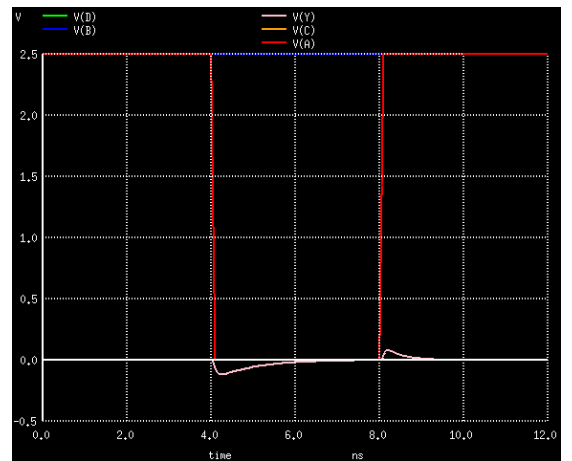
$A=0, B=1, C=0, D=0 \Rightarrow Y=1$



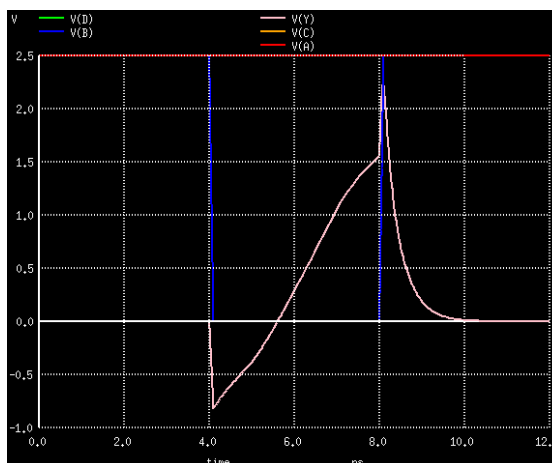
$A=0, B=1, C=0, D=1 \Rightarrow Y=1$



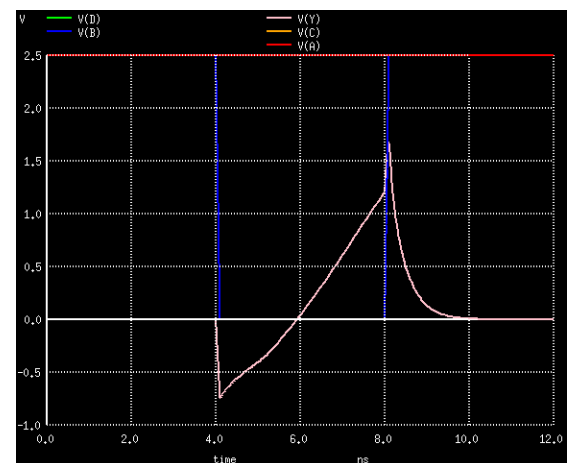
$A=0, B=1, C=1, D=0 \Rightarrow Y=1$



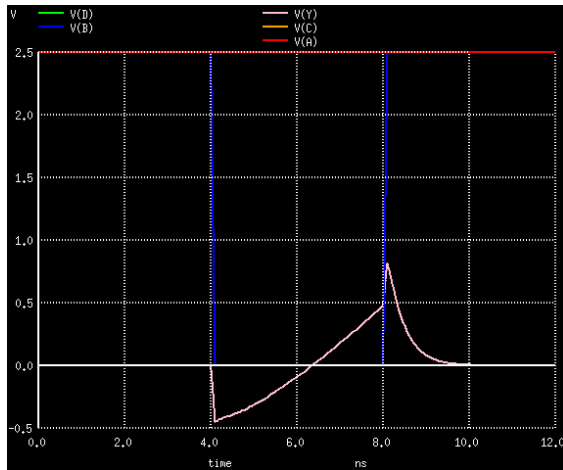
$A=0, B=1, C=1, D=1 \Rightarrow Y=0$



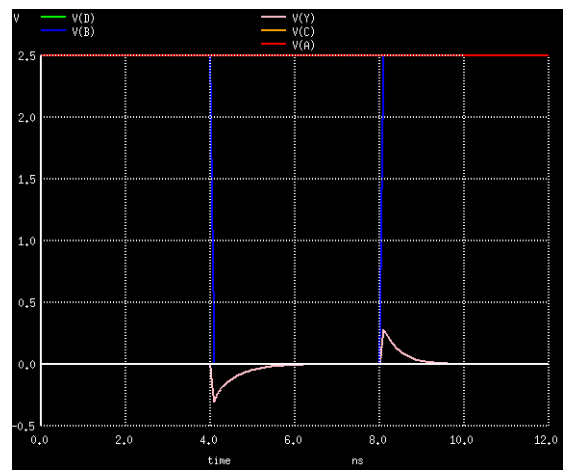
$A=1, B=0, C=0, D=0 \Rightarrow Y=1$



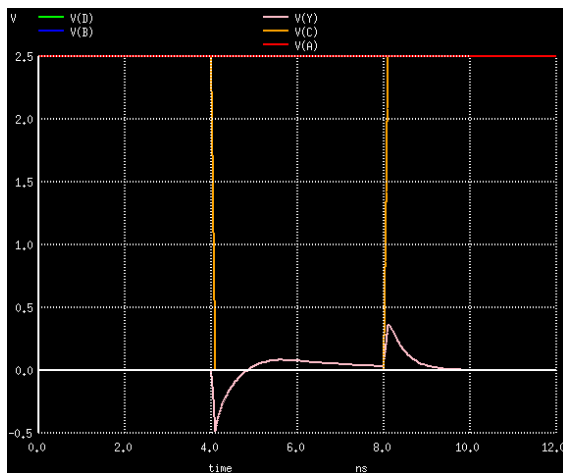
$A=1, B=0, C=0, D=1 \Rightarrow Y=1$



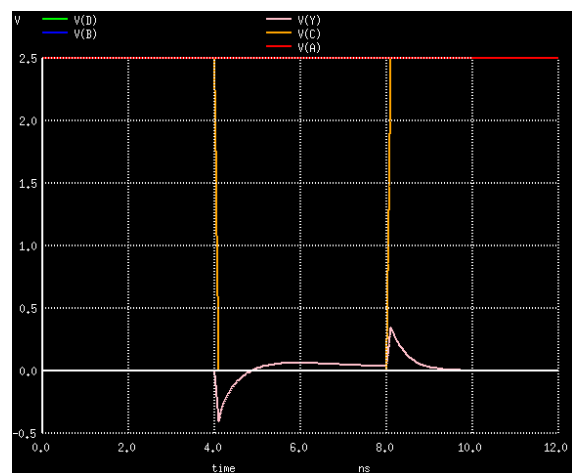
A=1, B=0, C=1, D=0  $\Rightarrow$  Y=1



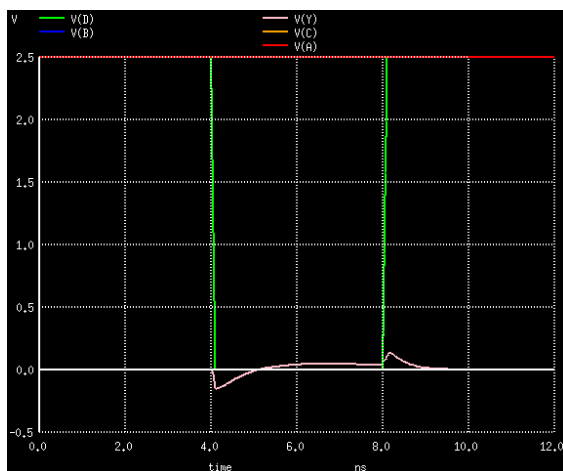
A=1, B=0, C=1, D=1  $\Rightarrow$  Y=0



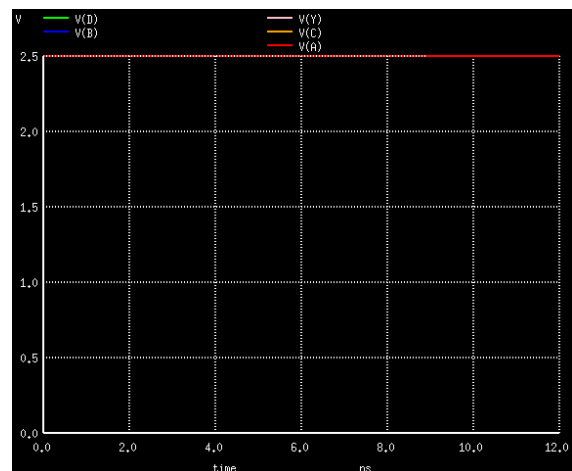
A=1, B=1, C=0, D=0  $\Rightarrow$  Y=0



A=1, B=1, C=0, D=1  $\Rightarrow$  Y=0



A=1, B=1, C=1, D=0  $\Rightarrow$  Y=0



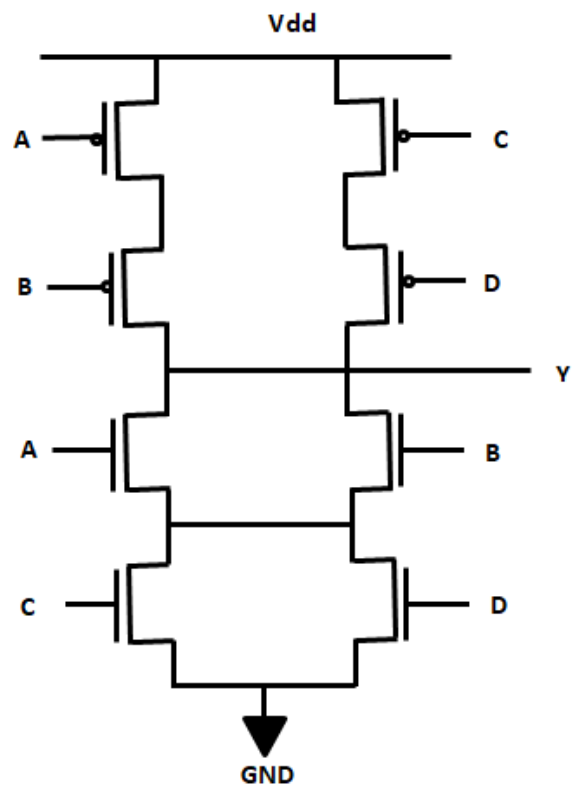
A=1, B=1, C=1, D=1  $\Rightarrow$  Y=0

- Cell Size**

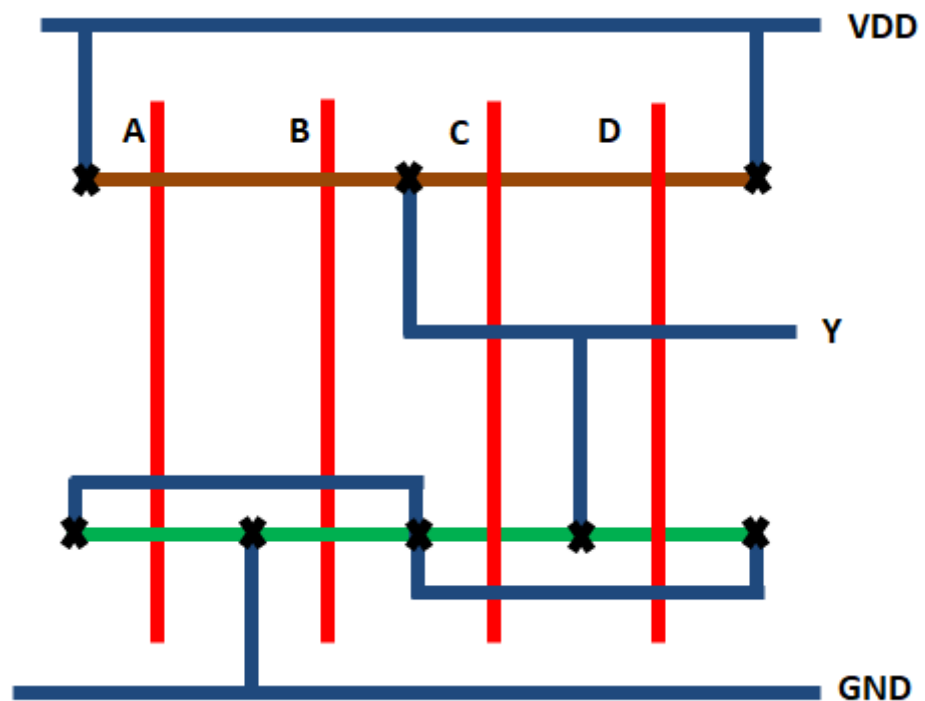
width=  $5 \times 8\lambda = 40\lambda$   
height=  $7 \times 8\lambda = 56\lambda$

## - OAI22

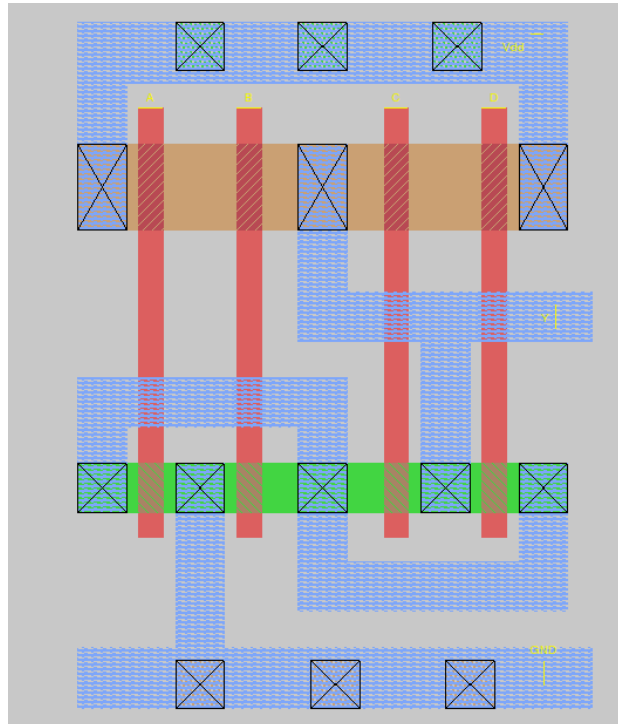
- Schematic



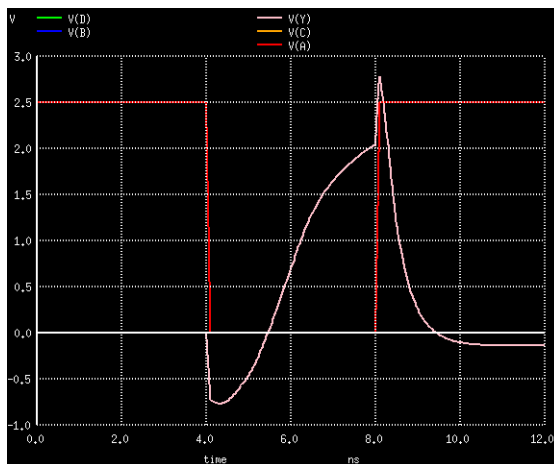
- Stick Diagram



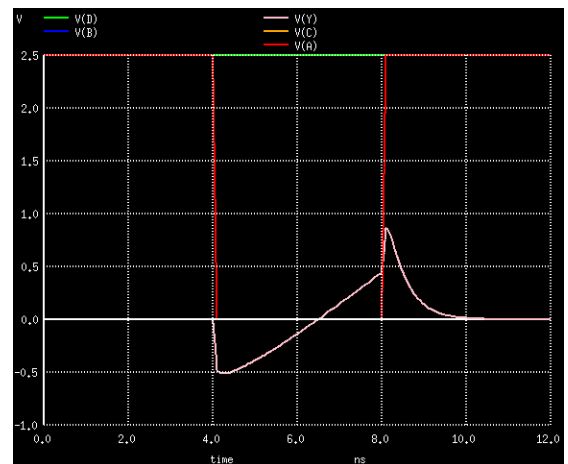
- **Magic Layout**



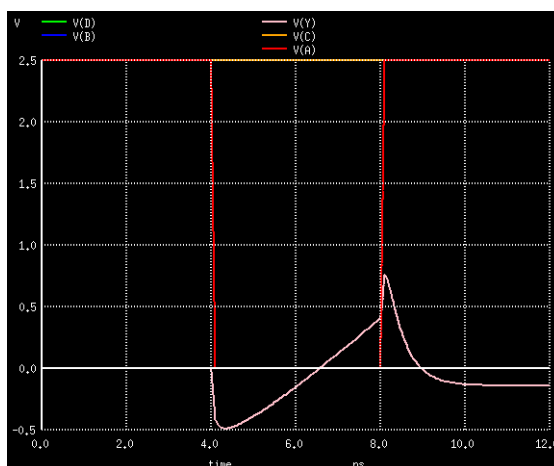
- **Spice Plots**



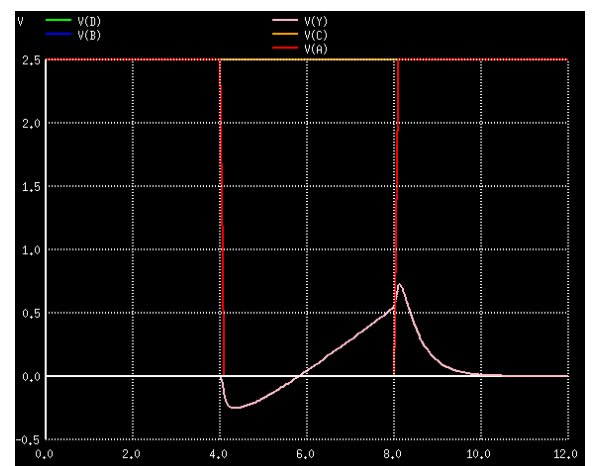
A=0, B=0, C=0, D=0 ➡ Y=1



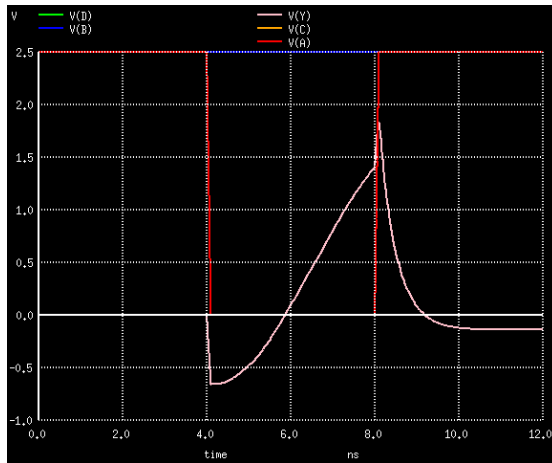
A=0, B=0, C=0, D=1 ➡ Y=1



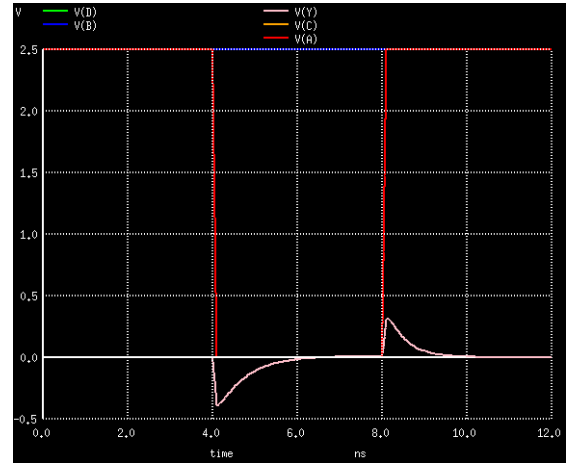
A=0, B=0, C=1, D=0 ➡ Y=1



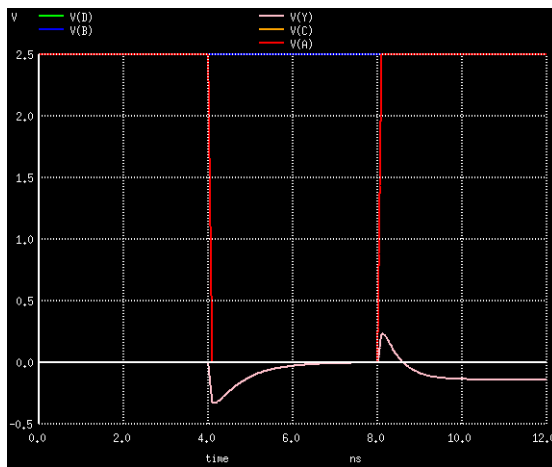
A=0, B=0, C=1, D=1 ➡ Y=1



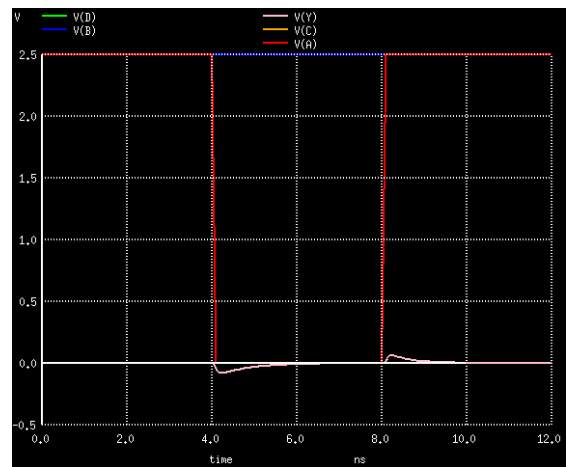
A=0, B=1, C=0, D=0  $\Rightarrow$  Y=1



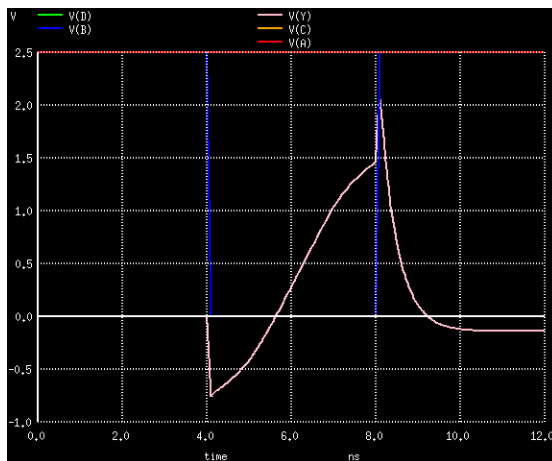
A=0, B=1, C=0, D=1  $\Rightarrow$  Y=0



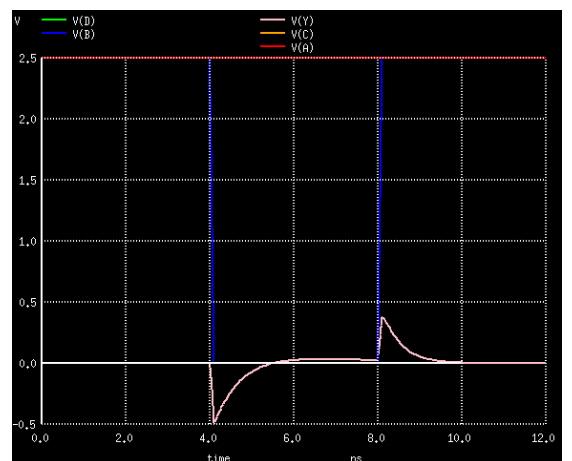
A=0, B=1, C=1, D=0  $\Rightarrow$  Y=0



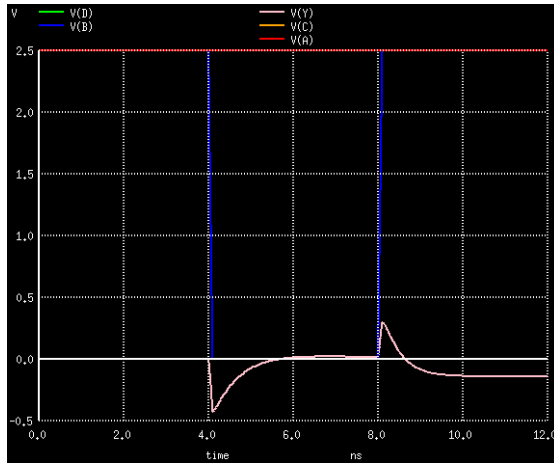
A=0, B=1, C=1, D=1  $\Rightarrow$  Y=0



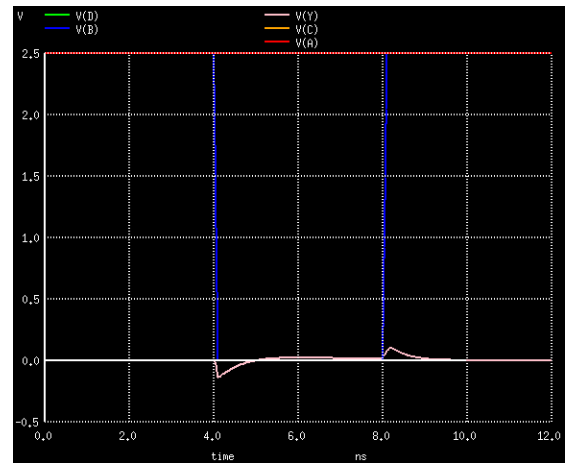
A=1, B=0, C=0, D=0  $\Rightarrow$  Y=1



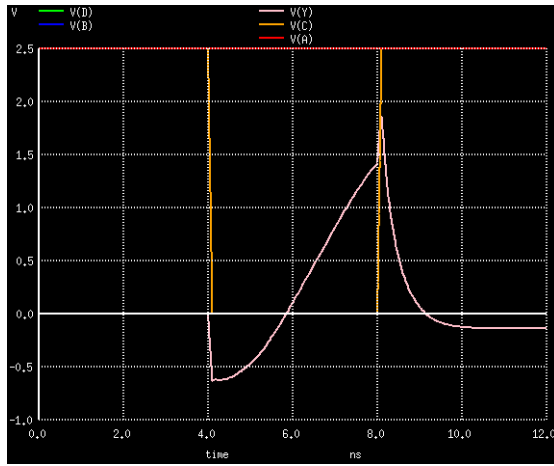
A=1, B=0, C=0, D=1  $\Rightarrow$  Y=0



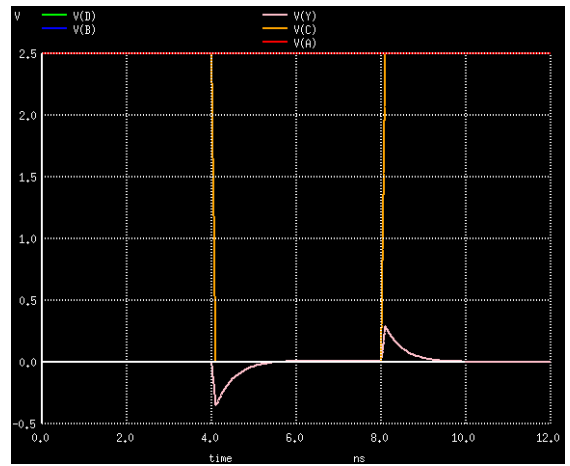
A=1, B=0, C=1, D=0  $\Rightarrow$  Y=0



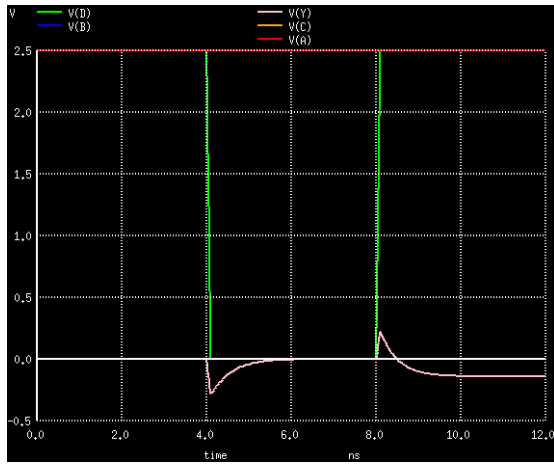
A=1, B=0, C=1, D=1  $\Rightarrow$  Y=0



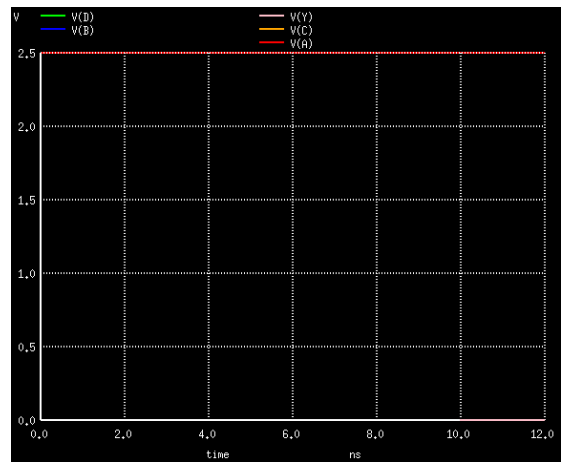
A=1, B=1, C=0, D=0  $\Rightarrow$  Y=1



A=1, B=1, C=0, D=1  $\Rightarrow$  Y=0



A=1, B=1, C=1, D=0  $\Rightarrow$  Y=0



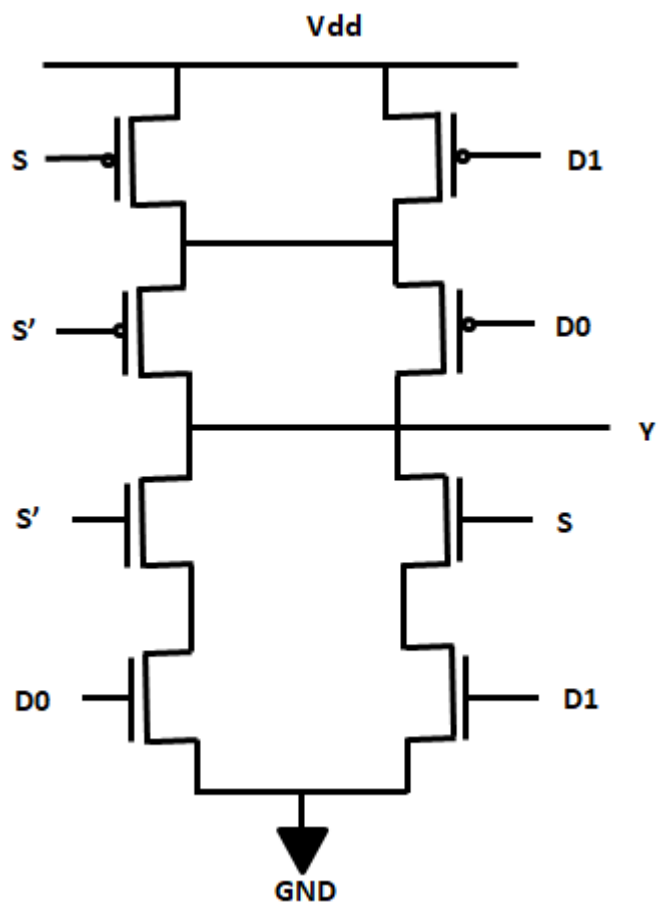
A=1, B=1, C=1, D=1  $\Rightarrow$  Y=0

- Cell Size**

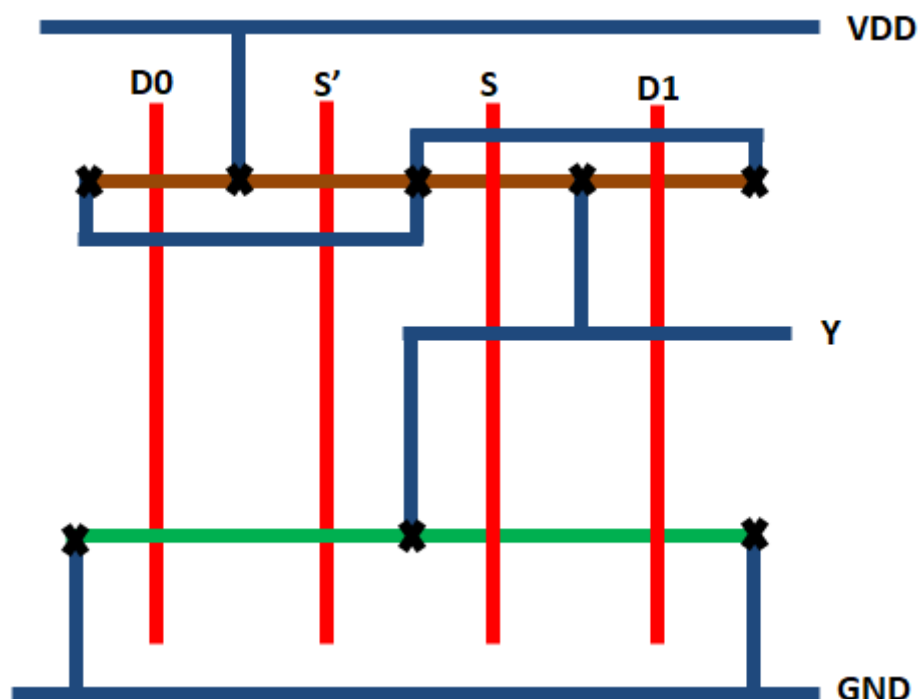
width=  $5 \times 8\lambda = 40\lambda$   
height=  $7 \times 8\lambda = 56\lambda$

## - MUX2x1

- Schematic

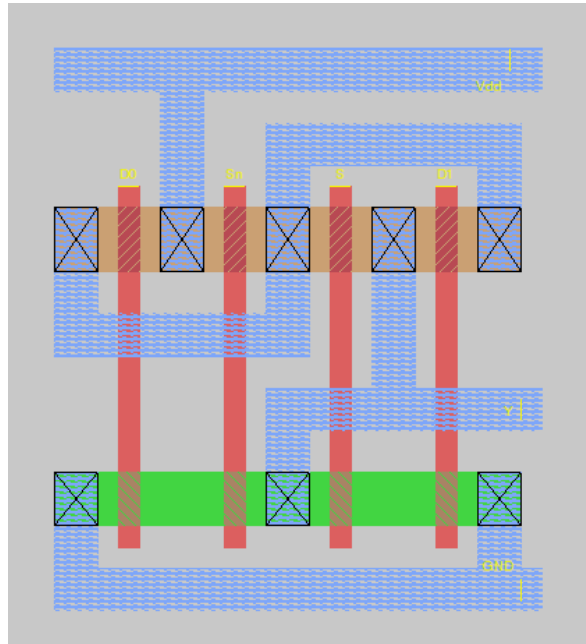


- Stick Diagram

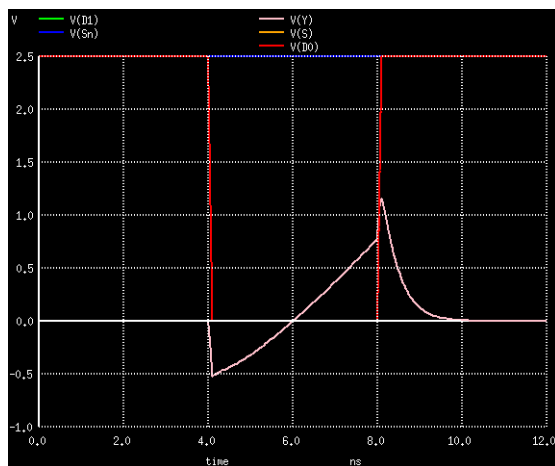




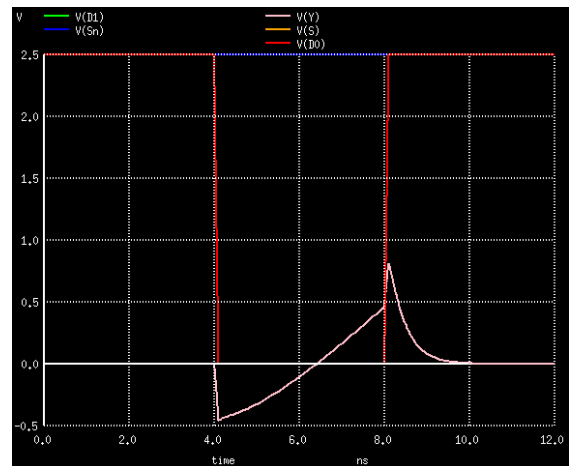
- **Magic Layout**



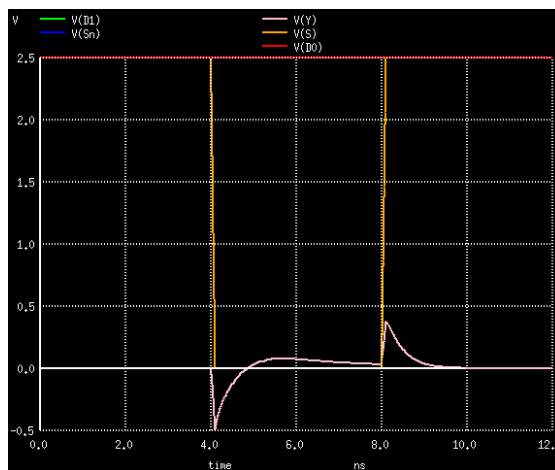
- **Spice Plots**



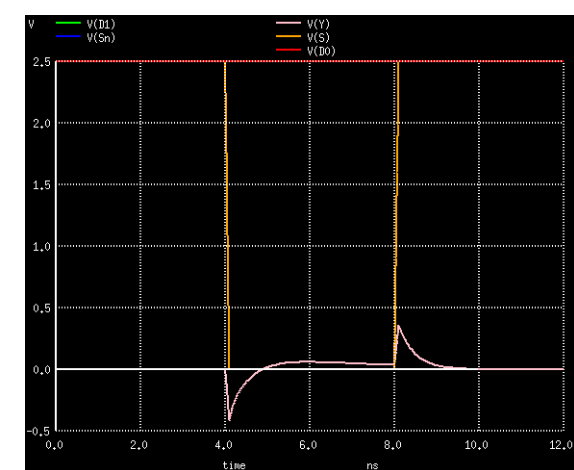
S=0, D0=0, D1=0 → Y=1



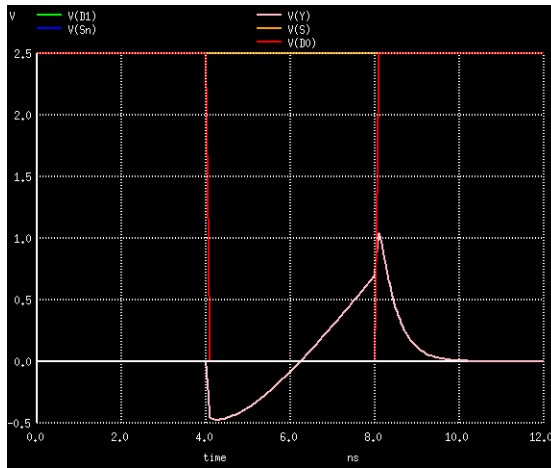
S=0, D0=0, D1=1 → Y=1



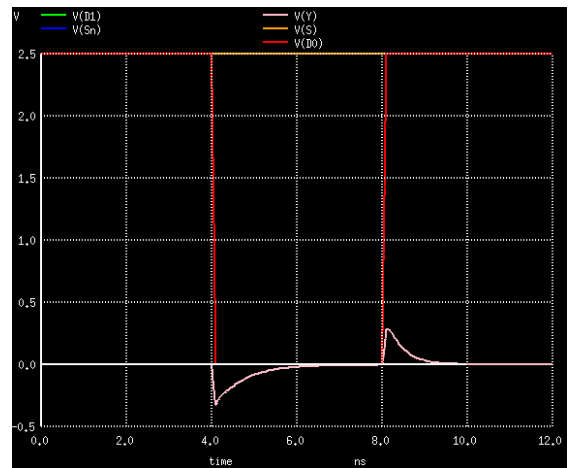
S=0, D0=1, D1=0 → Y=0



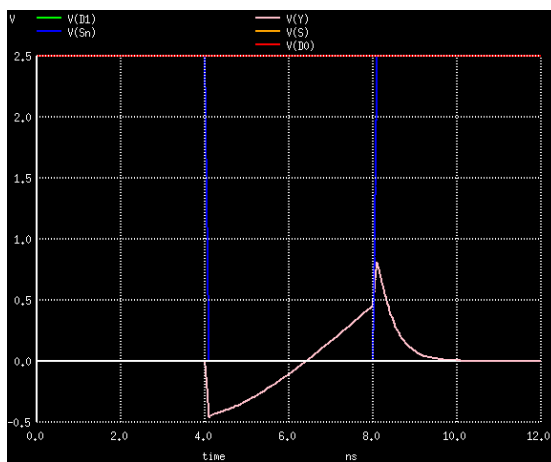
S=0, D0=1, D1=1 → Y=0



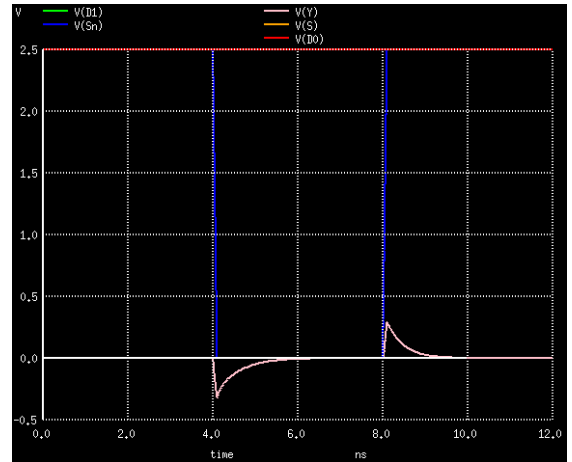
S=1, D0=0, D1=0  $\Rightarrow$  Y=1



S=1, D0=0, D1=1  $\Rightarrow$  Y=0



S=0, D0=1, D1=0  $\Rightarrow$  Y=1



S=0, D0=1, D1=1  $\Rightarrow$  Y=0

- Cell Size**

width=  $5 \times 8\lambda = 40\lambda$   
height=  $7 \times 8\lambda = 56\lambda$

**Seniha Sena Topkaya**  
**131044020**