

NAME - ASHUTOSH ARDU

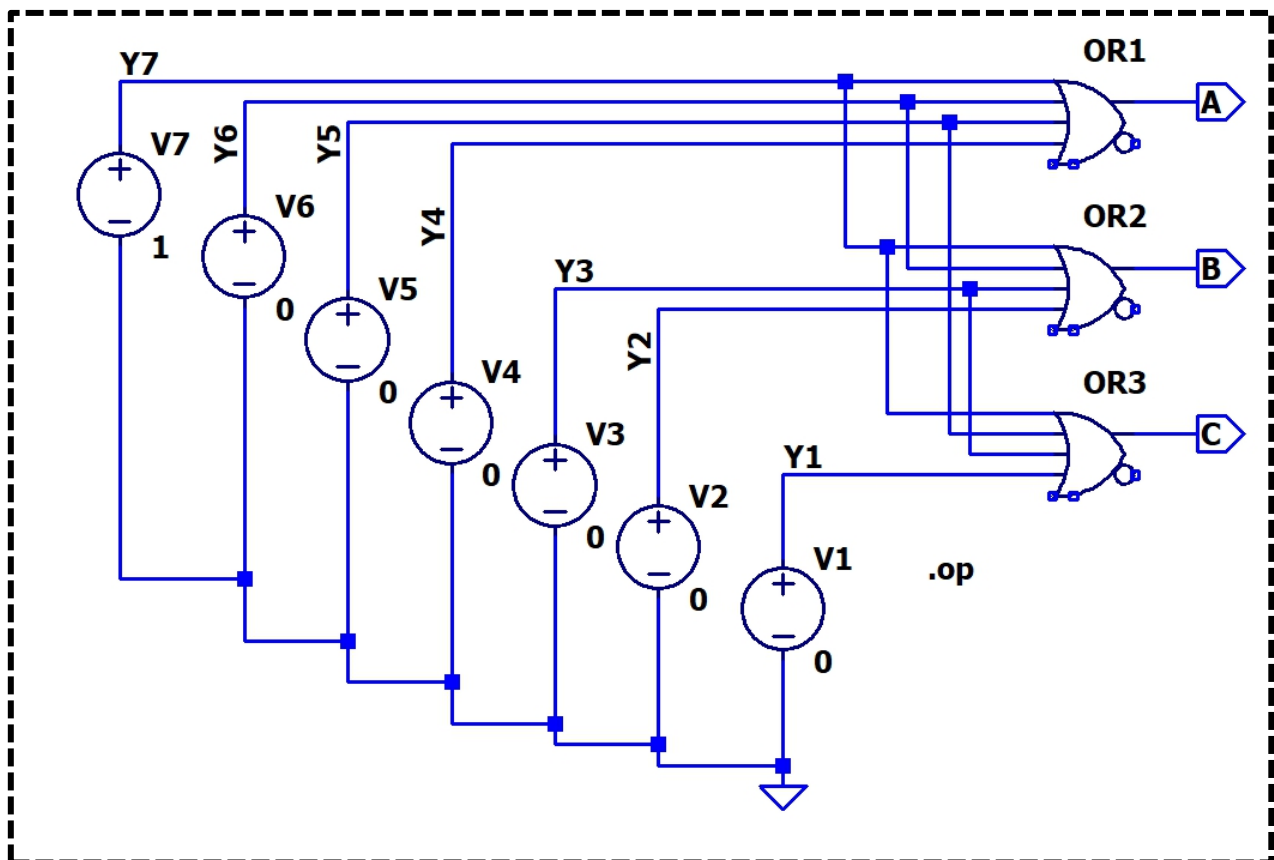
REG NO - 20BRS1262

DATE - 17-5-2021

# DLD LAB - 8

## ENCODER

### CIRCUIT DIAGRAM



# OUTPUTS

V(Y7) =1 A=1, B=1 & C=1

```
* C:\Users\Ghost\OneDrive - vit.ac.in\Documents\LTspiceXVII\CSE1003-Lab8\Encoder.asc

--- Operating Point ---

V(y7):      1      voltage
V(y6):      0      voltage
V(y5):      0      voltage
V(y4):      0      voltage
V(y3):      0      voltage
V(y2):      0      voltage
V(y1):      0      voltage
V(a):       1      voltage
V(b):       1      voltage
V(c):       1      voltage
I(V1):      0      device_current
I(V2):      0      device_current
I(V3):      0      device_current
I(V4):      0      device_current
I(V5):      0      device_current
I(V6):      0      device_current
I(V7):      0      device_current
I8(Or3):    -0      device_current
I7(Or3):    0      device_current
I6(Or3):    0      device_current
I2(Or3):    0      device_current
I8(Or2):    -0      device_current
I7(Or2):    0      device_current
I6(Or2):    0      device_current
I2(Or2):    0      device_current
I8(Or1):    -0      device_current
I7(Or1):    0      device_current
I6(Or1):    0      device_current
```

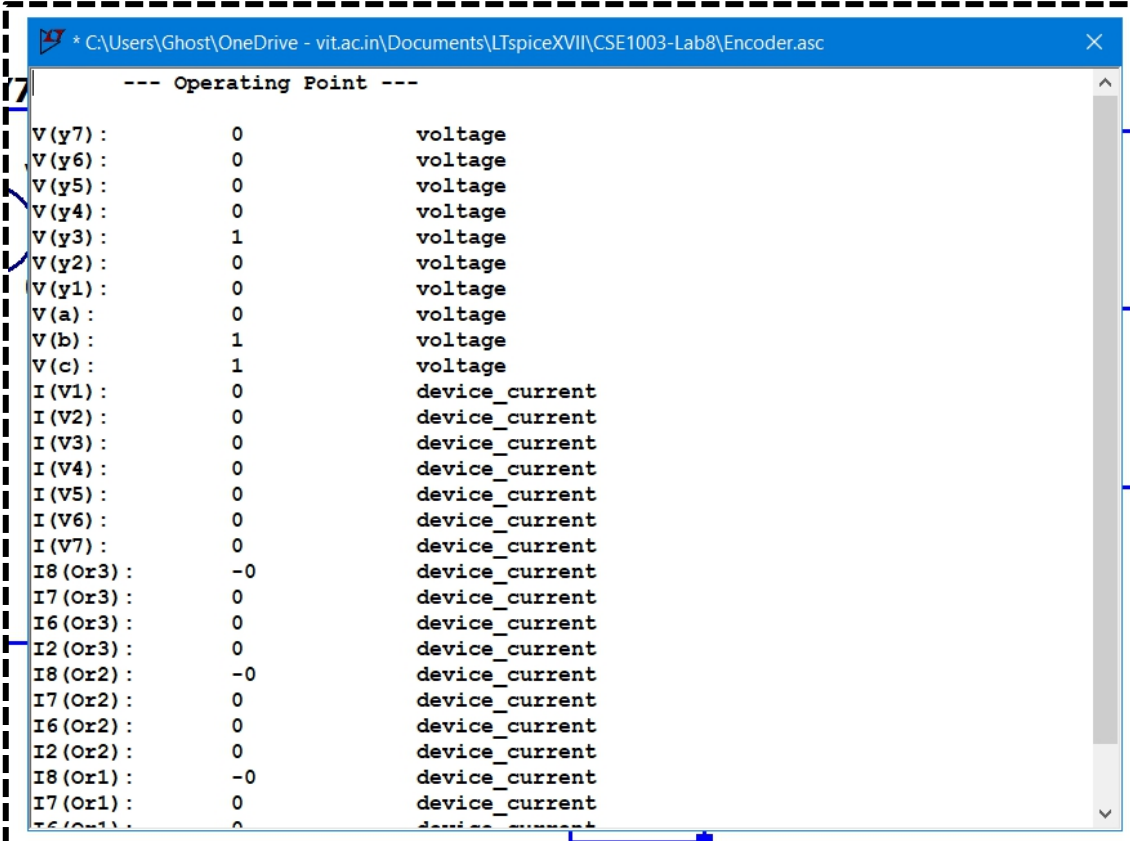
V(Y5)=1 A=1, B=0 & C=1

```
* C:\Users\Ghost\OneDrive - vit.ac.in\Documents\LTspiceXVII\CSE1003-Lab8\Encoder.asc

--- Operating Point ---

V(y7):      0      voltage
V(y6):      0      voltage
V(y5):      1      voltage
V(y4):      0      voltage
V(y3):      0      voltage
V(y2):      0      voltage
V(y1):      0      voltage
V(a):       1      voltage
V(b):       0      voltage
V(c):       1      voltage
I(V1):      0      device_current
I(V2):      0      device_current
I(V3):      0      device_current
I(V4):      0      device_current
I(V5):      0      device_current
I(V6):      0      device_current
I(V7):      0      device_current
I8(Or3):    -0      device_current
I7(Or3):    0      device_current
I6(Or3):    0      device_current
I2(Or3):    0      device_current
I8(Or2):    -0      device_current
I7(Or2):    0      device_current
I6(Or2):    0      device_current
I2(Or2):    0      device_current
I8(Or1):    -0      device_current
I7(Or1):    0      device_current
I6(Or1):    0      device_current
```

$V(Y3)=1$   $A=0$ ,  $B=1$  &  $C=1$



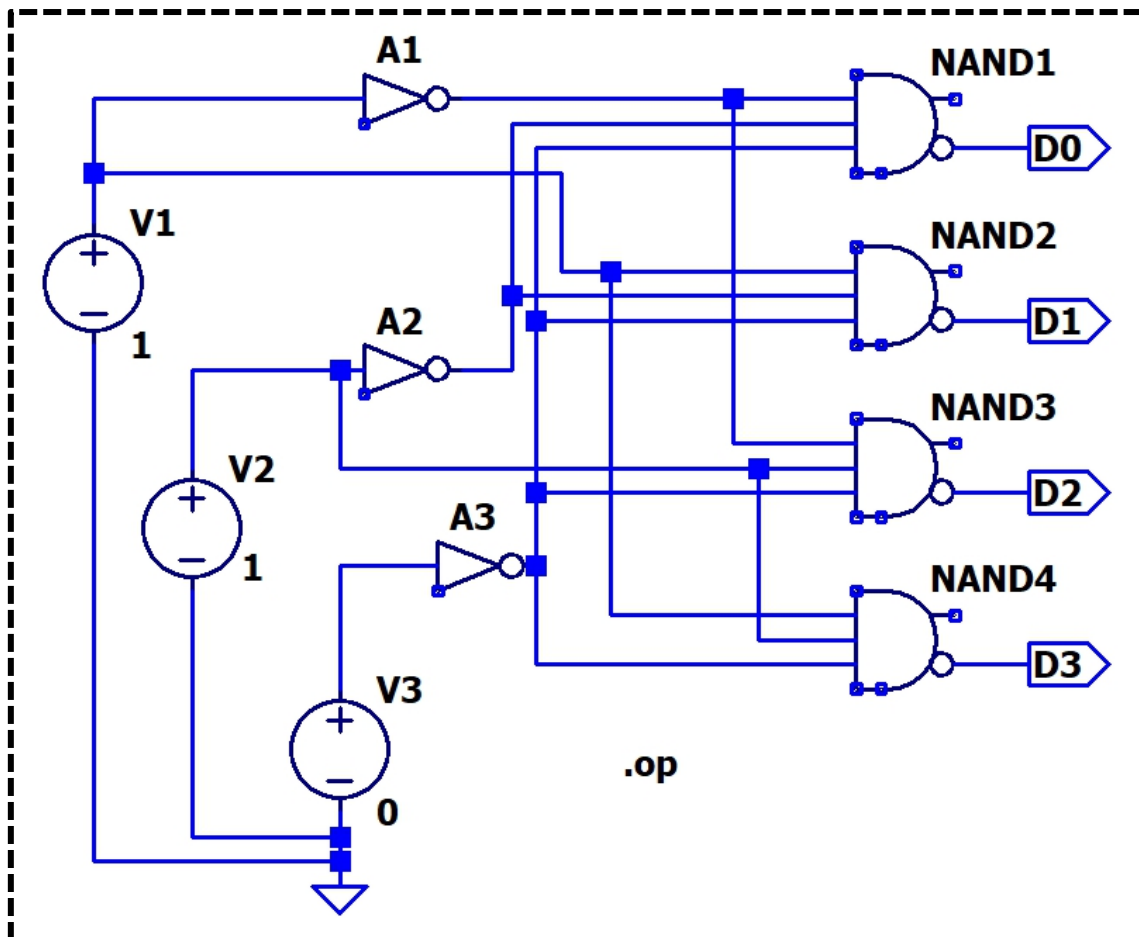
The screenshot shows a circuit simulation window titled "C:\Users\Ghost\OneDrive - vit.ac.in\Documents\LTspiceXVII\Lab8\Encoder.asc". The window displays the "Operating Point" results for the simulation. The results are organized into two columns: the first column lists the component and node, and the second column shows the value and the type of measurement (voltage or device\_current).

Component/Node	Value	Type
V(y7) :	0	voltage
V(y6) :	0	voltage
V(y5) :	0	voltage
V(y4) :	0	voltage
V(y3) :	1	voltage
V(y2) :	0	voltage
V(y1) :	0	voltage
V(a) :	0	voltage
V(b) :	1	voltage
V(c) :	1	voltage
I(V1) :	0	device_current
I(V2) :	0	device_current
I(V3) :	0	device_current
I(V4) :	0	device_current
I(V5) :	0	device_current
I(V6) :	0	device_current
I(V7) :	0	device_current
I8 (Or3) :	-0	device_current
I7 (Or3) :	0	device_current
I6 (Or3) :	0	device_current
I2 (Or3) :	0	device_current
I8 (Or2) :	-0	device_current
I7 (Or2) :	0	device_current
I6 (Or2) :	0	device_current
I2 (Or2) :	0	device_current
I8 (Or1) :	-0	device_current
I7 (Or1) :	0	device_current
I6 (Or1) :	0	device_current
I2 (Or1) :	0	device_current

DECODER

CIRCUIT DIAGRAM





## OUTPUTS

V1=1 V2=1 V3=0

--- Operating Point ---

V(n001):	1	voltage
V(n005):	1	voltage
V(n006):	0	voltage
V(n002):	0	voltage
V(n003):	0	voltage
V(n004):	1	voltage
V(d0):	1	voltage
V(d1):	1	voltage
V(d2):	1	voltage
V(d3):	0	voltage
I(V3):	0	device_current
I(V2):	0	device_current
I(V1):	0	device_current
I8(A3):	-0	device_current
I6(A3):	0	device_current
I8(A2):	-0	device_current
I6(A2):	0	device_current
I8(A1):	-0	device_current
I6(A1):	0	device_current
I8(Nand4):	-0	device_current
I7(Nand4):	0	device_current
I6(Nand4):	0	device_current
I2(Nand4):	0	device_current
I8(Nand3):	-0	device_current
I7(Nand3):	0	device_current
I6(Nand3):	0	device_current
I2(Nand3):	0	device_current
I8(Nand2):	-0	device_current
I7(Nand2):	0	device_current
I6(Nand2):	0	device_current
I2(Nand2):	0	device_current
I8(Nand1):	-0	device_current
I7(Nand1):	0	device_current
I6(Nand1):	0	device_current
I2(Nand1):	0	device_current

V1=1 V2=1 V3=1

```

* C:\Users\Ghost\OneDrive - vit.ac.in\Documents\LTspiceXVII\CSE1003-Lab8\Decoder.asc
--- Operating Point ---

V(n001) :      1      voltage
V(n005) :      1      voltage
V(n006) :      1      voltage
V(n002) :      0      voltage
V(n003) :      0      voltage
V(n004) :      0      voltage
V(d0) :       1      voltage
V(d1) :       1      voltage
V(d2) :       1      voltage
V(d3) :       1      voltage
I(V3) :       0      device_current
I(V2) :       0      device_current
I(V1) :       0      device_current
I8(A3) :     -0      device_current
I6(A3) :       0      device_current
I8(A2) :     -0      device_current
I6(A2) :       0      device_current
I8(A1) :     -0      device_current
I6(A1) :       0      device_current
I8(Nand4) :   -0      device_current
I7(Nand4) :    0      device_current
I6(Nand4) :    0      device_current
I2(Nand4) :    0      device_current
I8(Nand3) :   -0      device_current
I7(Nand3) :    0      device_current
I6(Nand3) :    0      device_current
I2(Nand3) :    0      device_current
I8(Nand2) :    0      device_current

```

V1=0 V2=0 V3=0

```

* C:\Users\Ghost\OneDrive - vit.ac.in\Documents\LTspiceXVII\CSE1003-Lab8\Decoder.asc
--- Operating Point ---

V(n001) :      0      voltage
V(n005) :      0      voltage
V(n006) :      0      voltage
V(n002) :      1      voltage
V(n003) :      1      voltage
V(n004) :      1      voltage
V(d0) :       0      voltage
V(d1) :       1      voltage
V(d2) :       1      voltage
V(d3) :       1      voltage
I(V3) :       0      device_current
I(V2) :       0      device_current
I(V1) :       0      device_current
I8(A3) :     -0      device_current
I6(A3) :       0      device_current
I8(A2) :     -0      device_current
I6(A2) :       0      device_current
I8(A1) :     -0      device_current
I6(A1) :       0      device_current
I8(Nand4) :   -0      device_current
I7(Nand4) :    0      device_current
I6(Nand4) :    0      device_current
I2(Nand4) :    0      device_current
I8(Nand3) :   -0      device_current
I7(Nand3) :    0      device_current
I6(Nand3) :    0      device_current
I2(Nand3) :    0      device_current
I8(Nand2) :    0      device_current

```