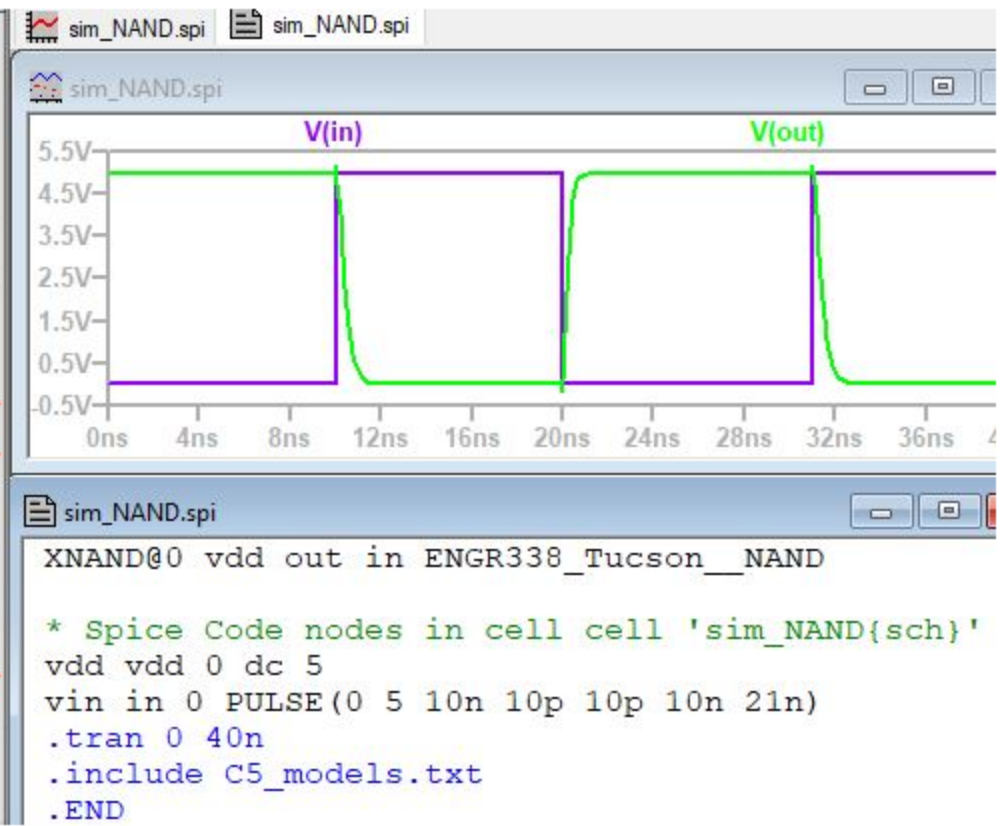
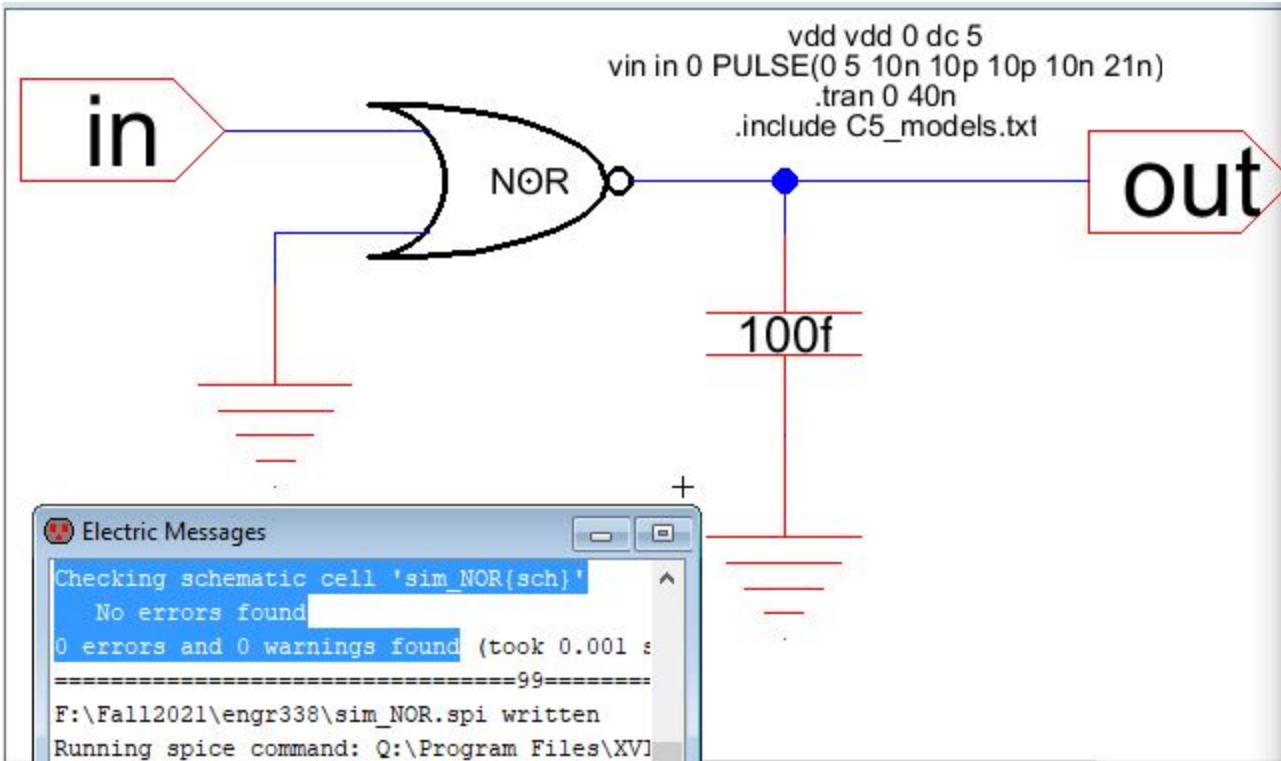


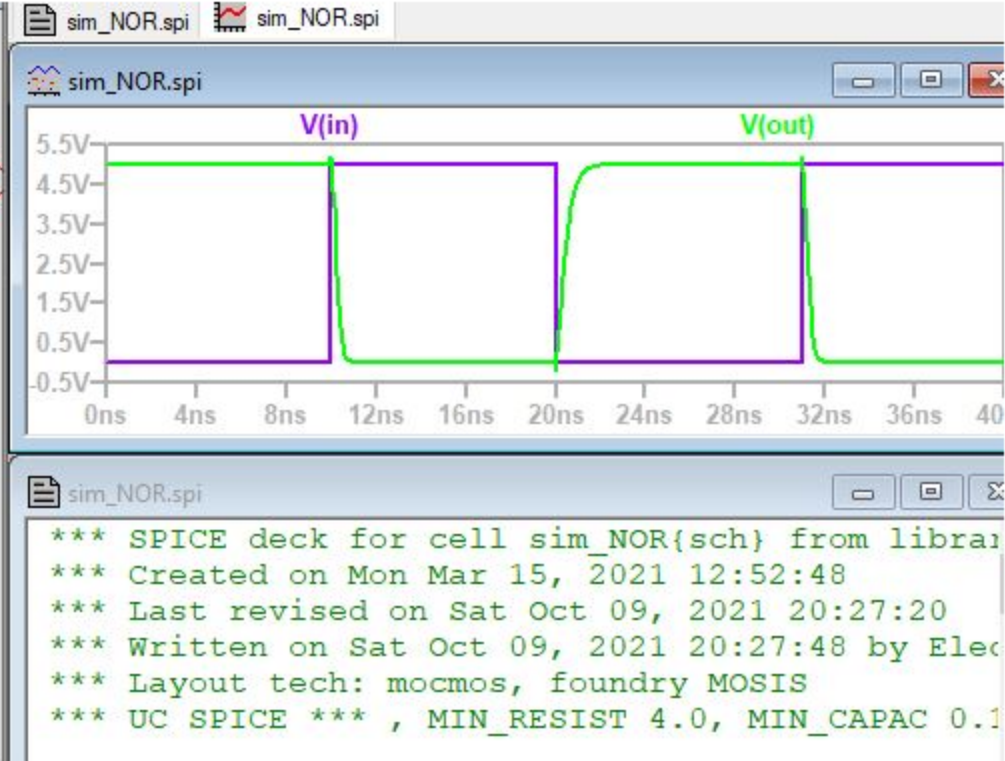
Electric Messages

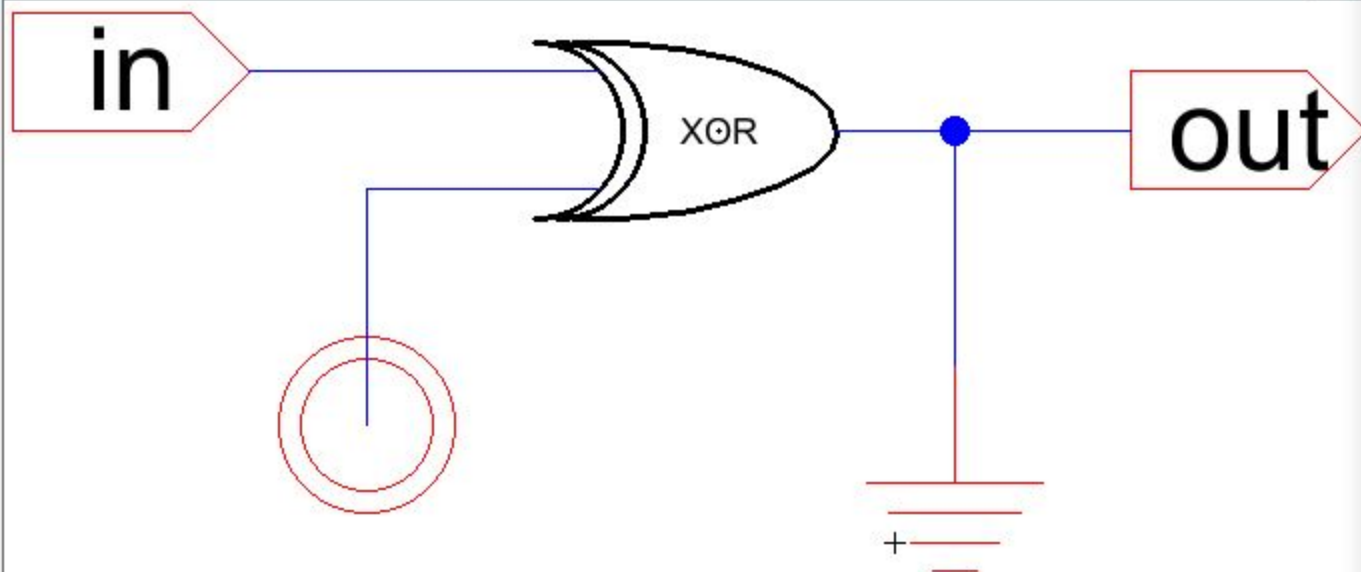
```
Running spice command: Q:\Program Files\XVIIx64.exe -i sim_NAND.spi
-----62-----
Checking schematic cell 'NAND{sch}'
No errors found
Checking schematic cell 'sim_NAND{sch}'
No errors found
0 errors and 0 warnings found (took 0.001 secs)
```





**Electric Messages**  
 Checking schematic cell 'sim NOR{sch}'  
 No errors found  
 0 errors and 0 warnings found (took 0.001 s  
 =====99=====  
 F:\Fall2021\enr338\sim\_NOR.spi written  
 Running spice command: Q:\Program Files\XVI

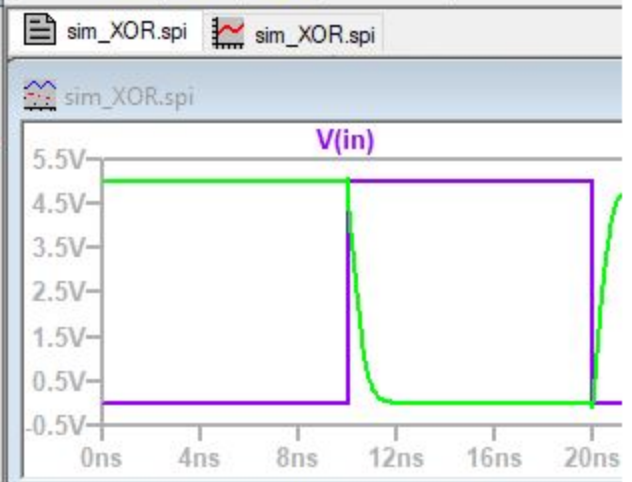




```

vdd vdd 0 dc 5
vin in PULSE(0 5 10n 10p 10p 10n 21n)
.tran 0 40n
.include C5_models.txt

```



```

sim_XOR.spi
XXOR@0 in out vdd ENGR338_Tuc
* Spice Code nodes in cell ce
vdd vdd 0 dc 5
vin in 0 PULSE(0 5 10n 10p 10p 10n 21n)
.tran 0 40n
.include C5_models.txt

```

Electric Messages

No errors found Right-Click to manually enter Horizontal Axis Limits

Checking schematic cell 'sim\_XOR(sch)'

No errors found

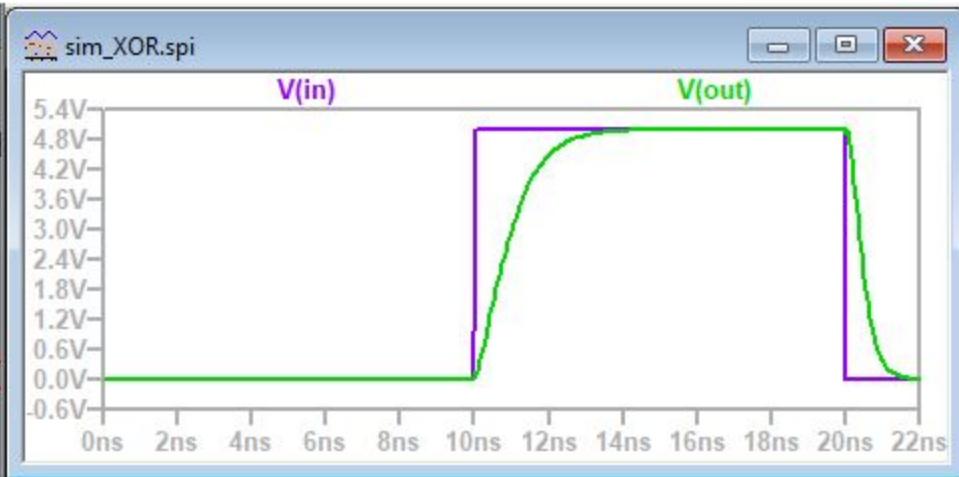
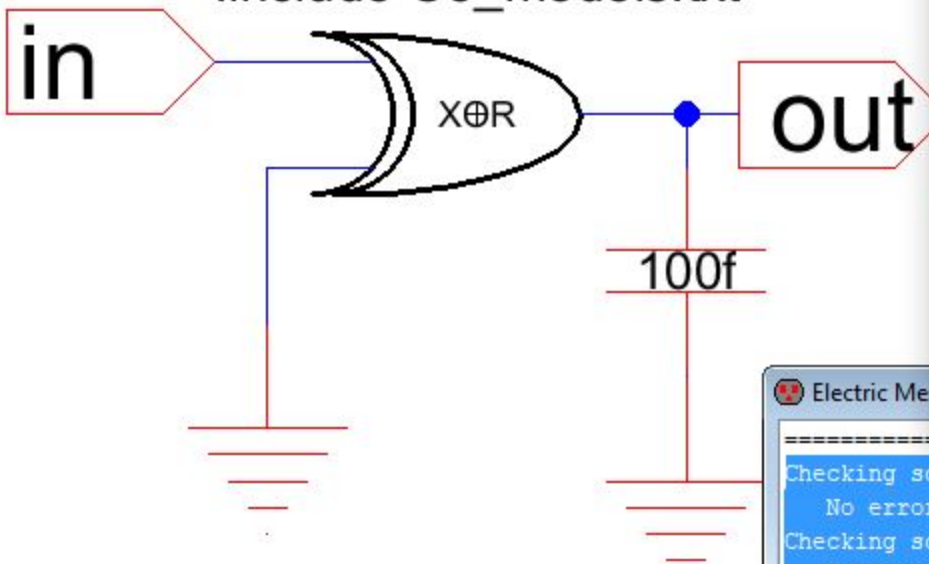
0 errors and 0 warnings found (took 0.004 secs)

-----308-----

F:\Fall2021\enr338\sim\_XOR.spi written

Running spice command: Q:\Program Files\XVIIx64.exe -i sim\_XOR.spi -r :

```
vdd vdd 0 dc 5
vin in 0 PULSE(0 5 10n 10p 10p 10n 21n)
.tran 0 40n
.include C5_models.txt
```

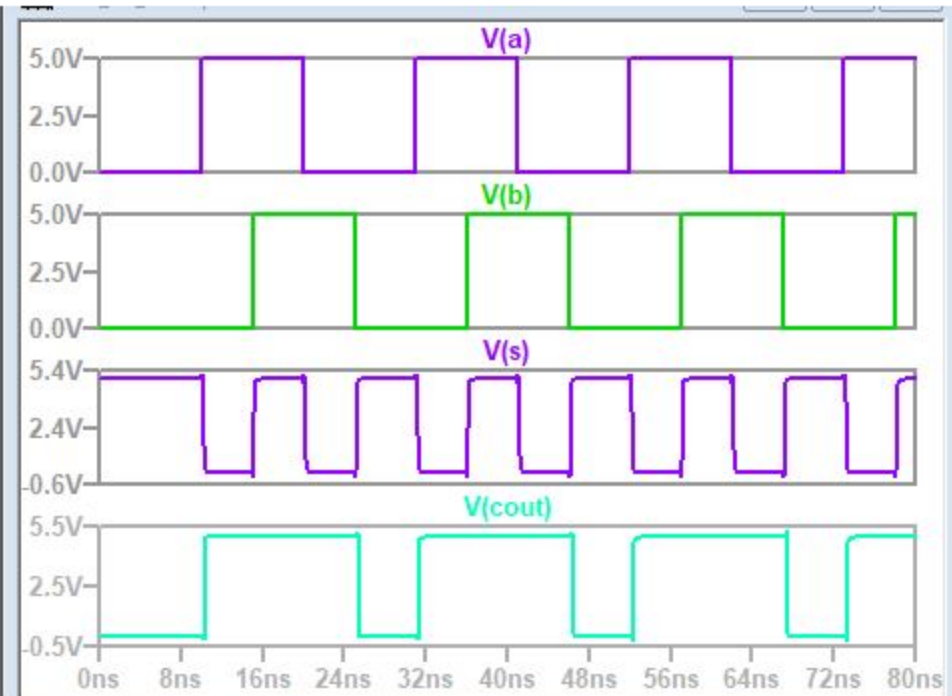
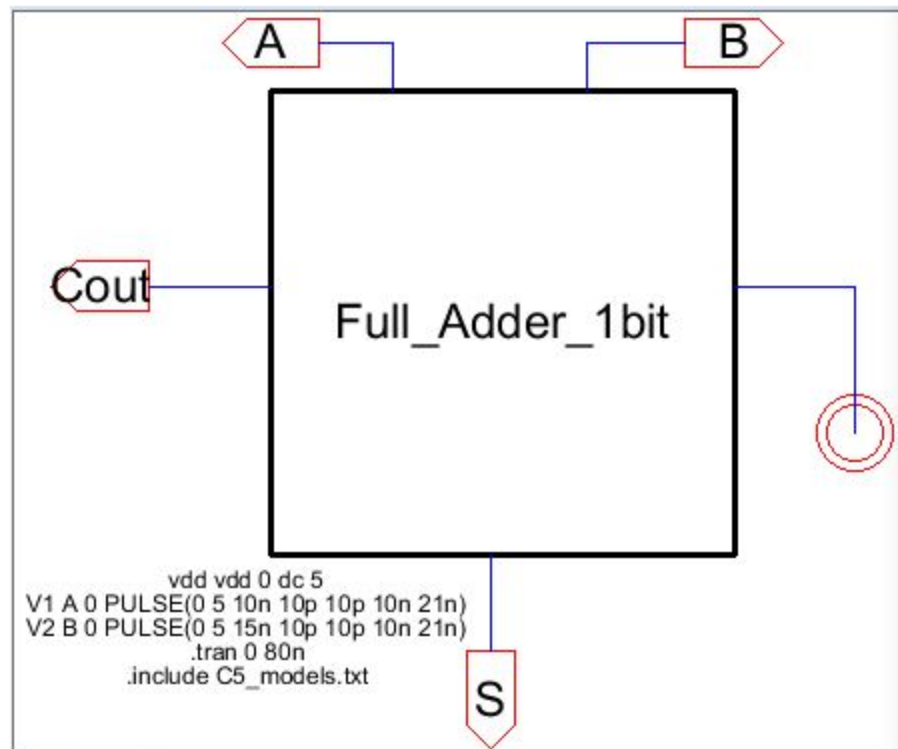


```
sim_XOR.spi
* Spice Code nodes in cell cell 'sim_XOR{sch}'
vdd vdd 0 dc 5
vin in 0 PULSE(0 5 10n 10p 10p 10n 21n)
```

Electric Mes  
x = 4.15ns y = 6.080V

```
Checking schematic cell 'XOR{sch}'
No errors found
Checking schematic cell 'sim_XOR{sch}'
No errors found
0 errors and 0 warnings found (took 0.006 secs)
```





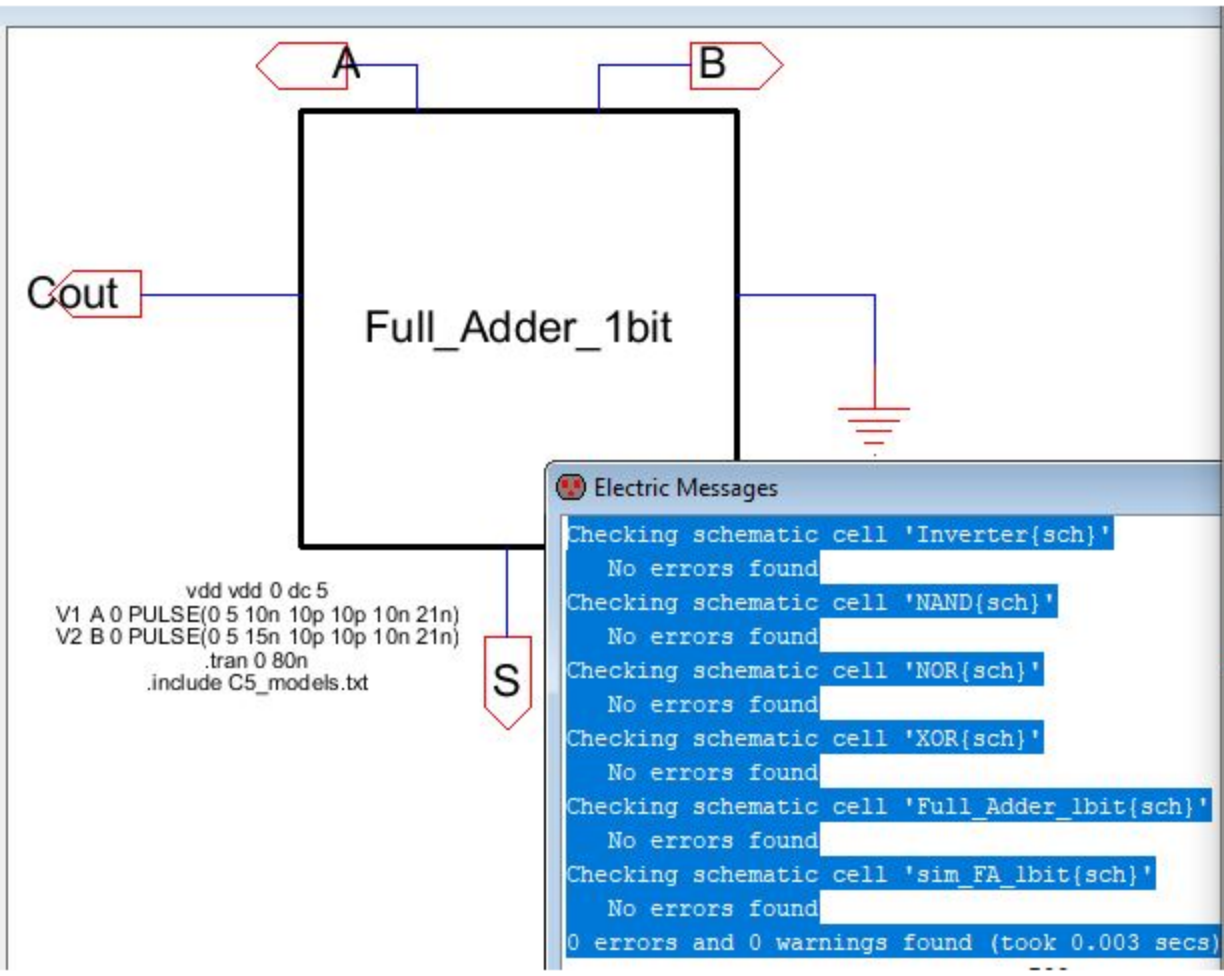
**Electric Messages**

```

Checking schematic cell 'Inverter{sch}'
  No errors found
Checking schematic cell 'NAND{sch}'
  No errors found
Checking schematic cell 'NOR{sch}'
  No errors found
Checking schematic cell 'XOR{sch}'
  No errors found
Checking schematic cell 'Full_Adder_1bit{sch}'
  No errors found
Checking schematic cell 'sim_FA_1bit{sch}'
  No errors found
0 errors and 0 warnings found (took 0.009 secs)
  
```

```

sim_FA_1bit.spi
Spice Code nodes in cell cell 'sim_FA_1bit'
dd vdd 0 dc 5
1 A 0 PULSE(0 5 10n 10p 10p 10n 21n)
2 B 0 PULSE(0 5 15n 10p 10p 10n 21n)
tran 0 80n
include C5_models.txt
END
  
```



**Electric Messages**  
 Checking schematic cell 'Inverter{sch}'  
 No errors found  
 Checking schematic cell 'NAND{sch}'  
 No errors found  
 Checking schematic cell 'NOR{sch}'  
 No errors found  
 Checking schematic cell 'XOR{sch}'  
 No errors found  
 Checking schematic cell 'Full\_Adder\_1bit{sch}'  
 No errors found  
 Checking schematic cell 'sim\_FA\_1bit{sch}'  
 No errors found  
 0 errors and 0 warnings found (took 0.003 secs)

