

irsim example: Two to one multiplexer

```
| Auto-generated `sim' format netlist
| Instance M of component 2:1 multiplexer (static AND/OR)
```

Comments

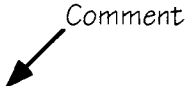
```
p S Vdd M_SMux2_SBar 2 4
n S GND M_SMux2_SBar 2 2
n A M_SMux2_A GND 2 2
n M_SMux2_SBar M_SMux2_AOut M_SMux2_A 2 2
p A Vdd M_SMux2_AOut 2 4
p M_SMux2_SBar Vdd M_SMux2_AOut 2 4
n B M_SMux2_B GND 2 2
n S M_SMux2_BOut M_SMux2_B 2 2
p B Vdd M_SMux2_BOut 2 4
p S Vdd M_SMux2_BOut 2 4
n M_SMux2_AOut M_SMux2_C GND 2 2
n M_SMux2_BOut Out M_SMux2_C 2 2
p M_SMux2_AOut Vdd Out 2 4
p M_SMux2_BOut Vdd Out 2 4
```





Gate *Source* *Drain* *Length and width*

```
| End of netlist
```

Vdd and GND are standard names

Two to one multiplexer test file (2)

| Test of one bit multiplexer 

w Out B A S
l A B S  Nodes to watch (trace and display values)
s
h A  Set input nodes low
s
l A  Set input node A high
s
h B
s
h S
s
l B
s
h A
s
h S
s
l S
s
l A
s  Perform simulation step

Two to one multiplexer test run (3)

```
16 > irsim mux21.1bit
*** IRSIM version 8.6 ***
12 nodes; transistors: n-channel=7 p-channel=7
parallel txtors:none
irsim> @ mux21.test
S=0 A=0 B=0 Out=0
time = 100.0ns
S=0 A=1 B=0 Out=1
time = 200.0ns
S=0 A=0 B=0 Out=0
time = 300.0ns
S=0 A=0 B=1 Out=0
time = 400.0ns
S=1 A=0 B=1 Out=1
time = 500.0ns
S=1 A=0 B=0 Out=0
time = 600.0ns
S=1 A=1 B=0 Out=0
time = 700.0ns
S=1 A=1 B=0 Out=0
time = 800.0ns
S=0 A=1 B=0 Out=1
time = 900.0ns
S=0 A=0 B=0 Out=0
time = 1000.0ns
irsim> q
17 >
```

Unix™ command line

Perform irsim command file

Display watched nodes after each step

Quit simulator