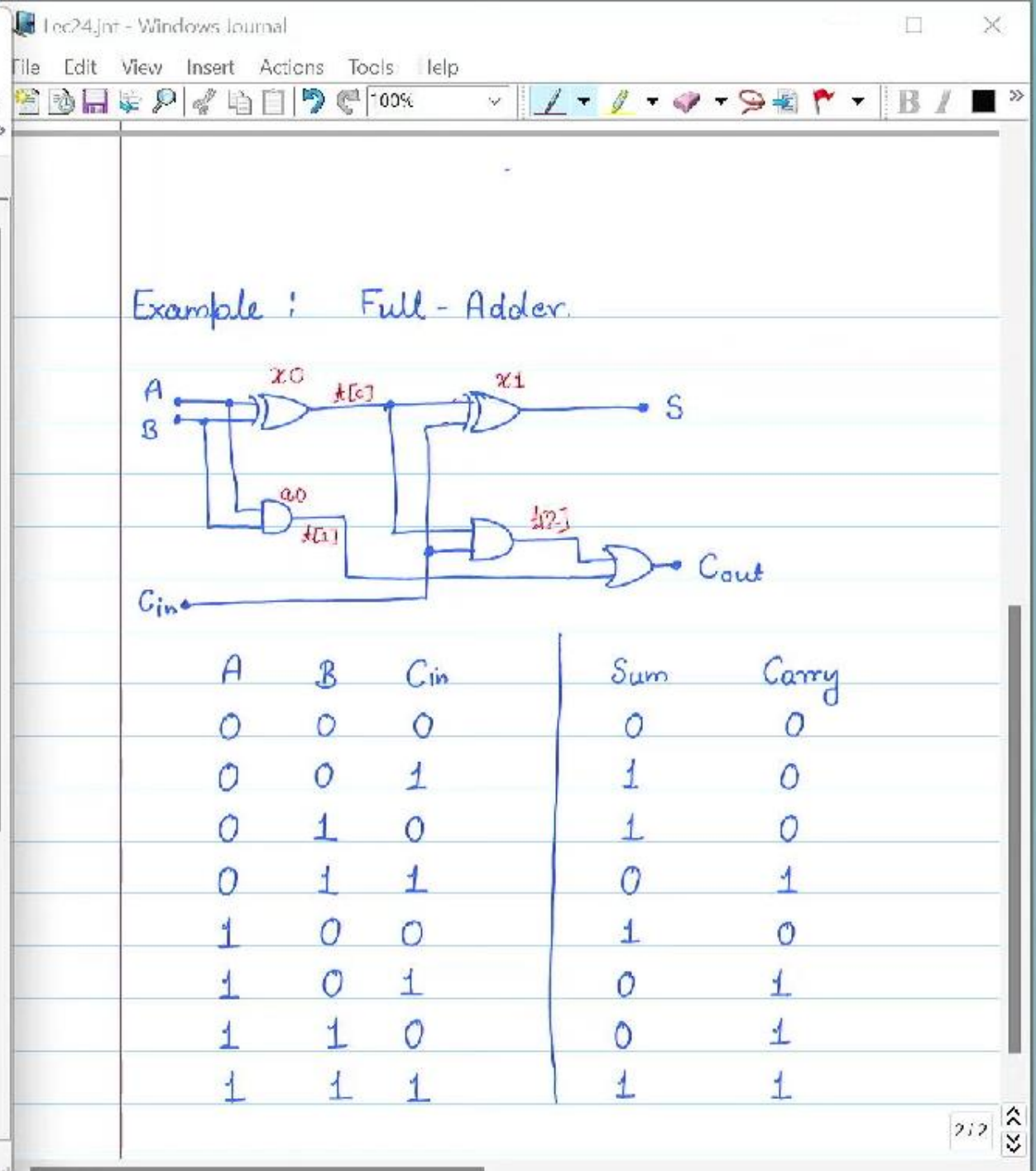


```
C:\verilog\bin\Full_Adder.v Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ? +
Full_Adder.v
1 module fulladder (
2     input wire a, b, cin,
3     output wire sum, cout
4 );
5
6     wire [4:0] t;
7
8     xor x0 (t[0], a, b);
9     xor x1 (sum, t[0], cin);
10
11     and a0 (t[1], a, b);
12     and a1 (t[2], cin, t[0]);
13
14     or o1 (cout, t[1], t[2]);
15 endmodule
16
17
```

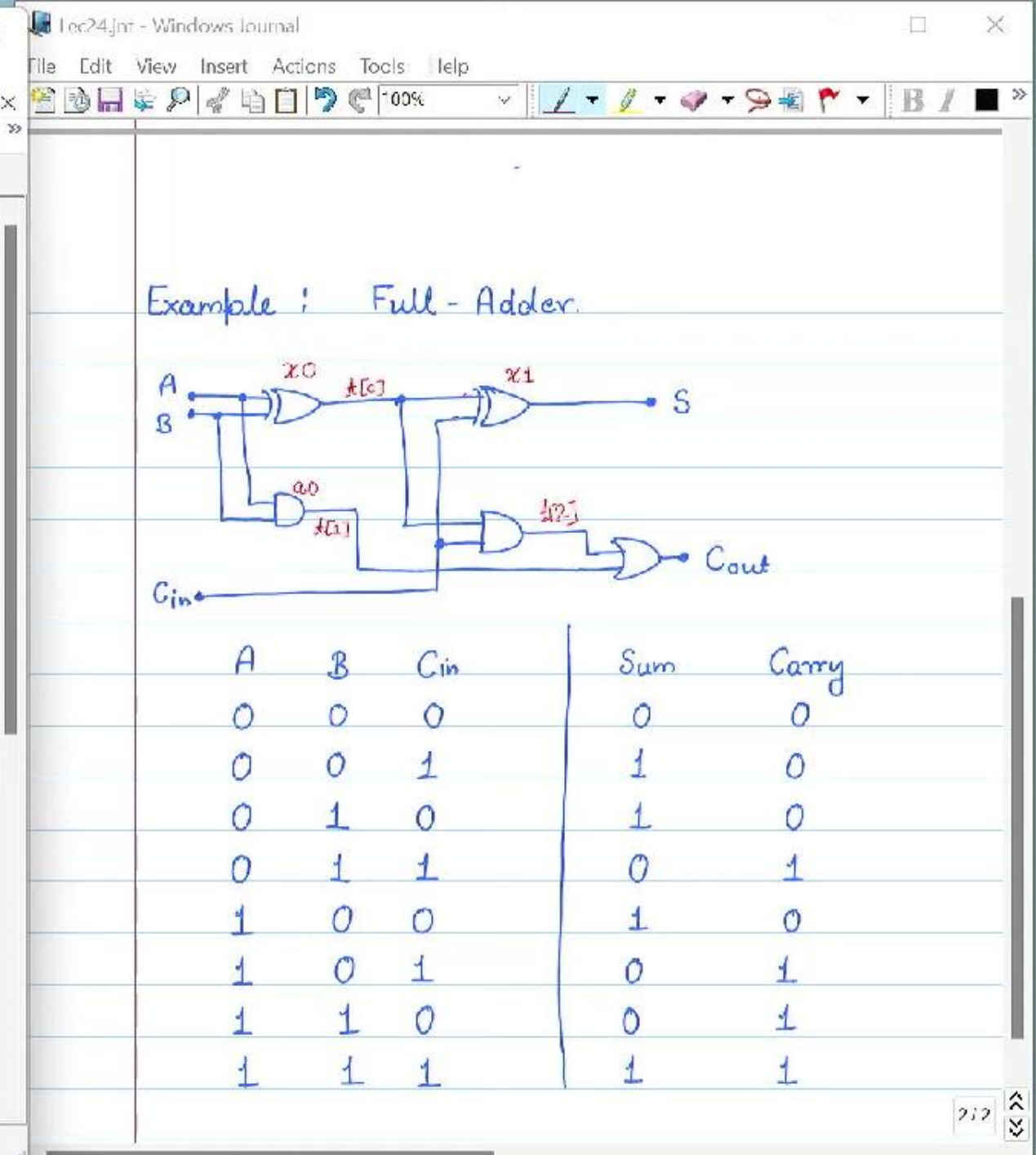
length : 241 lines : 1 Ln : 16 Col : 1 Pos : 240



```
C:\iverilog\bin\Full_Adder_TB.v Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ? +
Full_Adder_TB.v Full_Adder_TB.v
1 module fulladder tb;
2   reg aa, bb, cc;
3   wire ss, cy;
4   fulladder add1 (.a(aa), .b(bb), .cin(cc), .sum(ss), .cout(cy));
5   initial begin
6     #0 aa = 1'b0; bb = 1'b0; cc = 1'b0;
7     #5 aa = 1'b0; bb = 1'b0; cc = 1'b1;
8     #5 aa = 1'b0; bb = 1'b1; cc = 1'b0;
9     #5 aa = 1'b0; bb = 1'b1; cc = 1'b1;
10    #5 aa = 1'b1; bb = 1'b0; cc = 1'b0;
11    #5 aa = 1'b1; bb = 1'b0; cc = 1'b1;
12    #5 aa = 1'b1; bb = 1'b1; cc = 1'b0;
13    #5 aa = 1'b1; bb = 1'b1; cc = 1'b1;
14  end
15  initial begin
16    $monitor($time, "a = %b, b = %b, c = %b, sum = %b, carry = %b");
17  end
18  initial begin
19    $dumpfile("fulladder.vcd");
20    $dumpvars(0, fulladder_tb);
21  end
22 endmodule
23
```

NPTEL

length: 653 lines: 23 Ln: 23 Col: 1 Pos: 654 Windows (CRLF) UTF-8




```
C:\iverilog\bin\Full_Adder_TB.v Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ? +
Full_Adder_TB.v
1 module fulladder tb;
2   reg aa, bb, cc;
3   wire ss, cy;
4   fulladder add1 (.a(aa), .b(bb), .cin(cc), .sum(ss), .cout(cy));
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
endmodule
```

Select C:\Windows\System32\cmd.exe

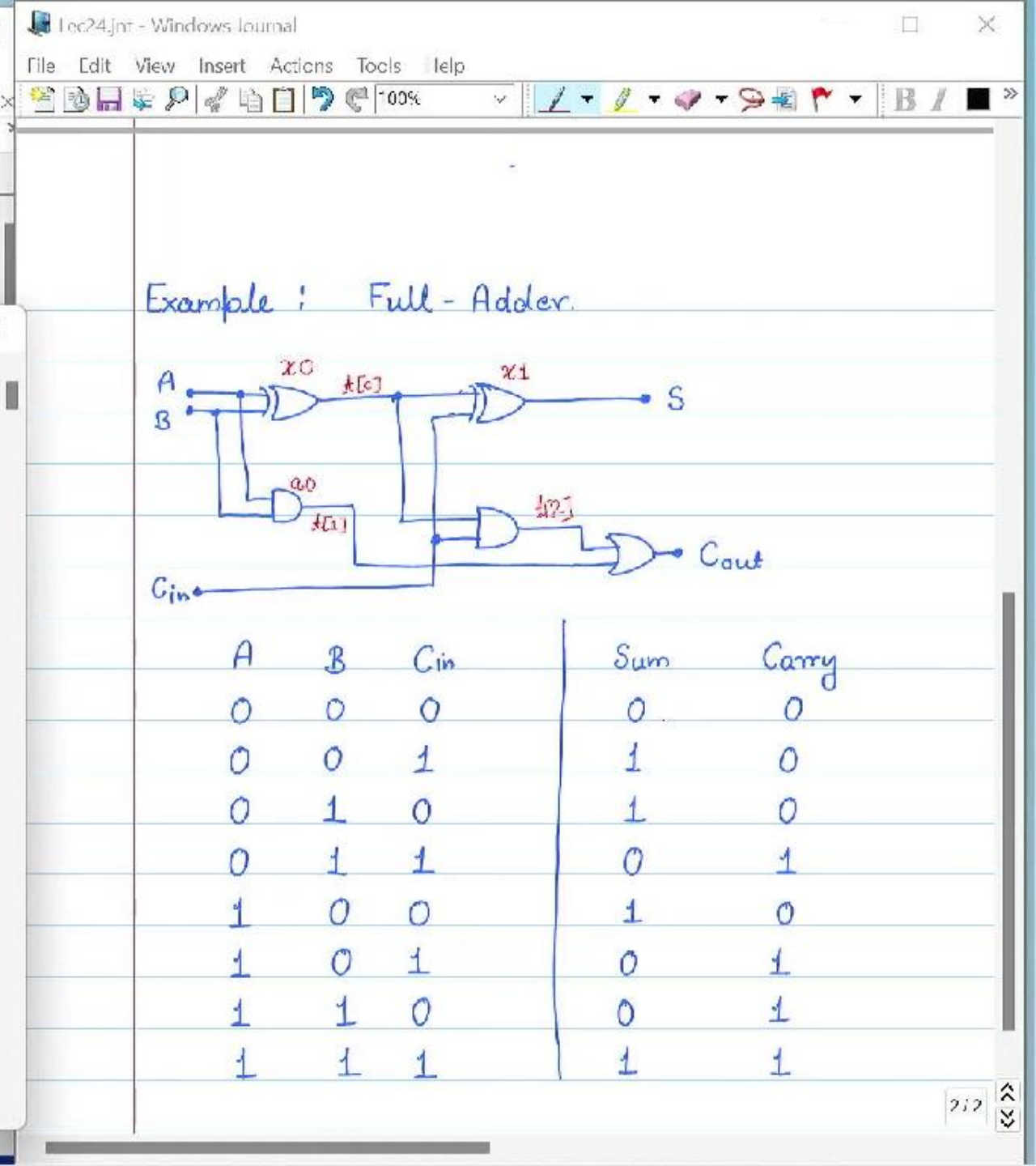
VCD info: dumpfile fulladder.vcd opened for output.

0a = 0, b = 0, c = 0, sum = 0, carry = 0
5a = 0, b = 0, c = 1, sum = 1, carry = 0
10a = 0, b = 1, c = 0, sum = 1, carry = 0
15a = 0, b = 1, c = 1, sum = 0, carry = 1
20a = 1, b = 0, c = 0, sum = 1, carry = 0
25a = 1, b = 0, c = 1, sum = 0, carry = 1
30a = 1, b = 1, c = 0, sum = 0, carry = 1
35a = 1, b = 1, c = 1, sum = 1, carry = 1


C:\iverilog\bin>

NPTEL

length: 653 lines: 23 Ln: 13 Col: 18 Pos: 419 Windows (CTRL) UTF-8



SST

 fulladder_tb
└─ add1

Type	Signals
wire	a
wire	b
wire	cin
wire	cout
wire	sum
wire	t[4:0]

wire	a
wire	b
wire	cin
wire	cout
wire	sum
wire	t[4:0]

Filter:

NPTEL

Append	Insert	Replace
--------	--------	---------

Signals

Time
a=0
b=0
cin=0
cout=0
sum=0
t[4:0]=zz
t[4]=z
t[3]=z
t[2]=0
t[1]=0
t[0]=0

Waves



C:\iverilog\bin\Mux4x1.v Notepad++

File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ? +

Mux4x1.v

```
1 module mux4(input wire [0:3] i, input wire j0, j1, out wire o);
2     wire [0:1] s;
3     assign s = j1 ? [{j0, 1'b1} : {j0, 1'b0}];
4     assign o = (s == 2'b00) ? i[0] :
5               (s == 2'b01) ? i[1] :
6               (s == 2'b10) ? i[2] :
7               i[3];
8 endmodule
```

length : 243 lines : 10 Ln : 9 Col : 1 Pos : 241

Windows (Ctrl) UTF-8

View ...

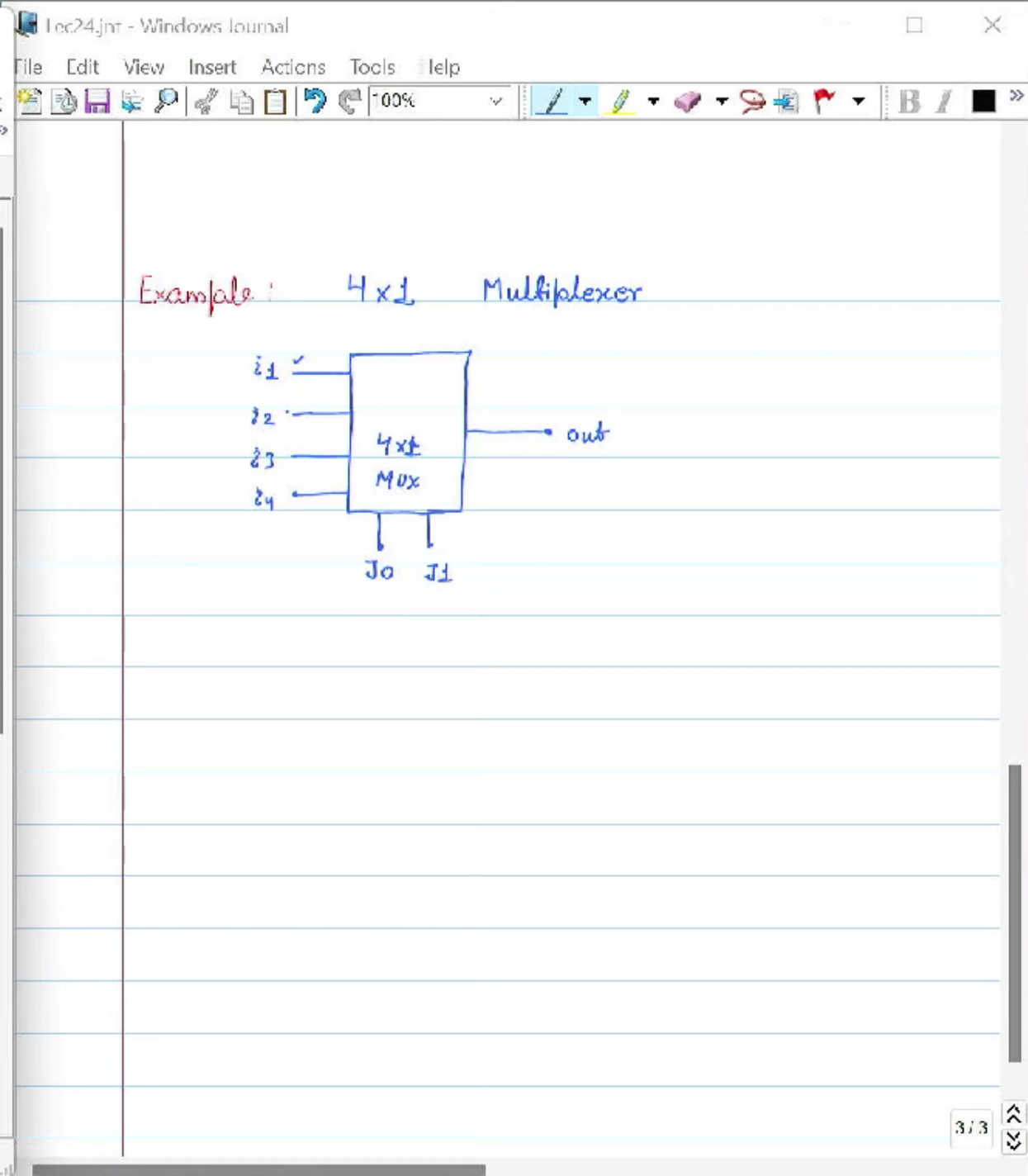
Search bin

Type	Size
Application extension	266 K3
Application extension	415 K3
Application extension	177 K3
Application extension	482 K3
Application extension	177 K3
Application extension	3,248 K3
Application extension	302 K3
Application extension	711 K3
Application extension	590 K3
Application extension	32 K3
Application extension	958 K3
Application extension	48 K3
Application extension	1,647 K3
Application	160 K3
Application	163 K3
V-File	1 K3

3/3


```
C:\iverilog\bin\Mux4x1_TB.v - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ? +
Mux4x1.v Mux4x1_TB.v
1 module TB;
2   reg [0:3] ii;
3   reg s0; reg s1;
4   wire yy;
5   mux4 newMUX(.i(ii), .j0(s0), .j1(s1), .o(yy));
6   initial begin
7     ii = 4'b0000; s0=1'b0; s1=1'b0;
8     #5 ii = 4'b1000; s0=1'b0; s1=1'b0;
9     #5 ii = 4'b0000; s0=1'b0; s1=1'b1;
10    #5 ii = 4'b0100; s0=1'b0; s1=1'b1;
11    #5 ii = 4'b0000; s0=1'b1; s1=1'b0;
12    #5 ii = 4'b0010; s0=1'b1; s1=1'b0;
13    #5 ii = 4'b0000; s0=1'b1; s1=1'b1;
14    #5 ii = 4'b0001; s0=1'b1; s1=1'b1;
15  end
16  initial begin
17    $monitor("Time = %0t: ii = %b, s0 = %b, s1 = %b, yy = %b", $time, ii, s0, s1, yy);
18  end
19  initial begin
20    $dumpfile("MUX4_test.vcd");
21    $dumpvars(0, TB);
22  end
23 endmodule
24
```

length: 733 lines: 24 Ln: 3 Col: 19 Pos: 49



```
C:\iverilog\bin\Mux4x1_TB.v Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ? +
Mux4x1.v Mux4x1_TB.v
1 module TB:
2   reg [0:3] ii;
3   reg s0; reg s1;
4   wire yy;
5
6
7   5a = 0, b = 0, c = 1, sum = 1, carry = 0
8   10a = 0, b = 1, c = 0, sum = 1, carry = 0
9   15a = 0, b = 1, c = 1, sum = 0, carry = 1
10  20a = 1, b = 0, c = 0, sum = 1, carry = 0
11  25a = 1, b = 0, c = 1, sum = 0, carry = 1
12  30a = 1, b = 1, c = 0, sum = 0, carry = 1
13  35a = 1, b = 1, c = 1, sum = 1, carry = 1
14
15 C:\iverilog\bin>gtkwave.exe fulladder.vcd
16
17 GTKWave Analyzer v3.3.48 (w)1999-2013 BSI
18
19 [0] start time.
20 [35] end time.
21 WM Destroy
22
23 endmodule C:\iverilog\bin>iverilog.exe -o Mux4x1 Mux4x1_TB.v Mux4x1.v
24
C:\iverilog\bin>vvp.exe Mux4x1
VCD info: dumpfile MUX4_test.vcd opened for output.
Time = 0: ii = 0000, s0 = 0, s1 = 0, yy = 0
Time = 5: ii = 1000, s0 = 0, s1 = 0, yy = 1
Time = 10: ii = 0000, s0 = 0, s1 = 1, yy = 0
Time = 15: ii = 0100, s0 = 0, s1 = 1, yy = 1
Time = 20: ii = 0000, s0 = 1, s1 = 0, yy = 0
Time = 25: ii = 0010, s0 = 1, s1 = 0, yy = 1
Time = 30: ii = 0000, s0 = 1, s1 = 1, yy = 0
Time = 35: ii = 0001, s0 = 1, s1 = 1, yy = 1
C:\iverilog\bin>gtkwave.exe
length: 733 lines: 24 Ln: 3 Col: 19 Pos: 49 Windows (CTRL) UTF-8
```

