module p1(z,d,s);

output z;

input[3:0] d;

input[1:0] s;

not not0(inv\_s0,s[0]);

not not1(inv\_s1,s[1]);

and and3(a3\_out,d[3],s[1],s[0]);

and and2(a2\_out,d[2],s[1],inv\_s0);

and and1(a1\_out,d[1],inv\_s1,s[0]);

and and0(a0\_out,d[0],inv\_s1,inv\_s0);

nor out(z,a0\_out,a1\_out,a2\_out,a3\_out);

endmodule

module tb\_p1();

reg[3:0] d;

reg[1:0] s;

wire z;

integer i;

p1 UUT (z, d, s);

initial

begin

#10 $monitor("D = %b", d, ", S = %b", s, " Z, = %b", z);

for( i = 0; i <= 15; i = i + 1)

begin

d = i;

s = 0;

#10;

s = 1;

#10;

s = 2;

#10;

s = 3;

#10;

$display("\n\n");

end

end

endmodule

