MAGNITUDE COMPARATOR

module compare (A, B, AeqB, AgtB, AltB);

input [3:0] A, B;

output AeqB, AgtB, AltB;

reg AeqB, AgtB, AltB;

always @(A or B)

begin

AeqB = 0;

AgtB = 0;

AltB = 0;

if(A == B)

AeqB = 1;

else if (A > B)

AgtB = 1;

else

AltB = 1;

end

endmodule

TESTBENCH

module compare\_tb;

reg [3:0] A, B;

wire AeqB, AgtB, AltB;

compare comp(A, B, AeqB, AgtB, AltB);

always

#5 B=$random%16;

always

#5 A=$random%16;

initial

begin

$dumpfile("dump.vcd");

$dumpvars(1);

#10000$finish;

end

initial

begin

$monitor($time, "\tA=%b\t , B=%b\t, AeqB=%b\t, AgtB=%b\t, AltB=%b\t", A,B, AeqB, AgtB, AltB);A=4'b0000;B=4'b0000;#80 $finish;

end

endmodule