

```

`timescale 1ns / 100ps

/*****
* Date: Aug. 28, 1999
* File: Test Decoder 3 to 8.v    (440 Examples)
*
* Testbench to generate some stimulus and display the results for the
* 3-to-8 decoder module.
*****/

//*****
module Test_decoder_3to8;
//*****
    wire  Y7, Y6, Y5, Y4, Y3, Y2, Y1, Y0;
    reg   A, B, C;
    reg   en;

    // Instantiate the Decoder (named DUT {device under test})
    decoder_3to8  DUT(Y7,Y6,Y5,Y4,Y3,Y2,Y1,Y0, A, B, C, en);

    initial begin
        $timeformat(-9, 1, " ns", 6); #1;
        A  = 1'b0;      // time = 0
        B  = 1'b0;
        C  = 1'b0;
        en = 1'b0;
        #9;
        en = 1'b1;      // time = 10
        #10;
        A  = 1'b0;
        B  = 1'b1;
        C  = 1'b0;      // time = 20
        #10;
        A  = 1'b1;
        B  = 1'b0;
        C  = 1'b0;      // time = 30
        #10;
        A  = 1'b1;
        B  = 1'b1;
        C  = 1'b0;      // time = 40
        #5;
        en = 1'b0;      // time = 45
        #5;
    end

    always @(A or B or C or en)
        $display("t=%t en=%b ABC=%b%b%b Y=%b%b%b%b%b%b%b%b",
            $time,en,A,B,C,Y7,Y6,Y5,Y4,Y3,Y2,Y1,Y0);

endmodule

```