

```

module datapath(location, colour, clock, resetn,
                load_x, load_y, load_colour, enable, x_out, y_out, colour_out);
    input [6:0] location;
    input [2:0] colour;
    input clock;
    input resetn;
    input load_x, load_y, load_colour;
    input enable;

    output [7:0] x_out;
    output [6:0] y_out;
    output [2:0] colour_out;

    reg [7:0] out_x;
    reg [6:0] out_y;
    reg [2:0] out_colour;

    always @(posedge clock)
    begin
        if(!resetn)
        begin
            out_x <= 8'b0;
            out_y <= 7'b0;
            out_colour <= 3'b0;
        end
        else
        begin
            if(load_x)
                out_x[6:0] <= location;
            if(load_y)
                out_y[7:0] <= 1'b0;
            if(load_colour)
                out_colour <= 3'b0;
        end
    end
endmodule

```