counter: The counter module.

The counter plays the role of PC since the instruction set doesn’t include any control transfer instructions.

Parameter List:

- clk: the clock (input)
- reset: it resets the counter synchronously (input)
- cnt: the output of the counter (output)

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EE577b Verilog Example

module counter (clk, reset, cnt);

input clk;
input reset;
output [7:0] cnt;

reg [7:0] cnt;

always @(posedge clk)
if (!reset)
    cnt = cnt + 1;
else
    cnt = 0;
endmodule