```
`timescale 1ns / 1ps
/**********************************************************************
*
* Module: mod_counter
*
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* Class: ECEN 220, Section 3, Fall 2020 - ECEN 220, Section 1, Winter 2020
* Date: 28 Oct 2020
*
* Description: Creates a counter that goes up to mod 10.
*
*
**********************************************************************/
`default_nettype none

module mod_counter #(MOD_VALUE = 10, BIT_NUMBER = 4)(
    input wire logic clk, reset, increment,
    output logic rolling_over,
    output logic[BIT_NUMBER - 1:0] count );

    always_ff @(posedge clk) begin
        if(reset | ((count == MOD_VALUE - 1) & increment))
            count <= {BIT_NUMBER * {1'b0}} ;
        else if((count < MOD_VALUE - 1) & increment)
            count <= count + 1;
        end

   assign rolling_over = ((count == MOD_VALUE - 1) & increment);


    endmodule
```