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`timescale 1ns / 1ps

/*****
*****
*
* Module: Mod_Counter
*
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* Class: ECEN 220, Section 1, Winter 2021
* Date: 3/9/21
*
* Description: Basic Modulus Counter for
stopwatch project. Counts up to max value
*                  then rolls to 0
based on the input signals and clock.
*
*
*****
*****/

`default_nettype none
module Mod_Counter #(parameter
MOD_VALUE=10, WID = 4) (
    input wire logic clk, reset, increment,
    output logic rolling_over,

```

```
output logic [WID-1:0] count);

always_ff @(posedge clk) begin
    if(reset)
        count <= 0;
    else if((count == (MOD_VALUE - 1))
&& increment)
        count <= 0;
    else if(increment)
        count <= count + 1;
end

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

endmodule
```