Always case2

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A *priority encoder* is a combinational circuit that, when given an input bit vector, outputs the position of the first 1 bit in the vector. For example, a 8-bit priority encoder given the input 8'b10010000 would output 3'd4, because bit[4] is first bit that is high.

Build a 4-bit priority encoder. For this problem, if none of the input bits are high (i.e., input is zero), output zero. Note that a 4-bit number has 16 possible combinations.

Module Declaration

```
// synthesis verilog_input_version verilog_2001
module top_module (
    input [3:0] in,
    output reg [1:0] pos  );
```

Hint...