```
module IU8 #(
    parameter DIGITS = 4,
    parameter N = 8
    )
(
    input clk,
    input reset,
    input [3:0] row,
    output [3:0] col,
    output [N-1:0] twosCompOutput//,
//  output invalid
);

   wire [DIGITS*4-1:0] out_sig; // Adjust DIGITS based on keypad_input instantiation
   wire [3:0] trig, value_sig;
   wire [15:0] BCD_sig; // Adjust width as necessary
   wire [N-1:0] binarySM_sig, signedMagInput_sig;
   wire validity;

keypad_input #(.DIGITS(4)) keypad_input_inst
(
   .clk(clk) , // input  clk_sig
   .reset(reset) ,   // input  reset_sig
   .row(row) , // input [3:0] row_sig
   .col(col) , // output [3:0] col_sig
   .out(out_sig) ,   // output [DIGITS*4-1:0] out_sig
   .value(value_sig) ,  // output [3:0] value_sig
   .trig(trig)    // output  trig_sig
);

BCD2BinarySM BCD2BinarySM_inst
(
   .BCD(out_sig) ,   // input [15:0] BCD_sig
   .binarySM(binarySM_sig)    // output [N-1:0] binarySM_sig
);

SignToTwoC SignToTwoC_inst
(
   .signedMagInput(binarySM_sig) ,  // input [N-1:0] signedMagInput_sig
   .twosCompOutput(twosCompOutput)  // output [7:0] twosCompOutput_sig
);

endmodule
```

```
IU8 IU8_inst
(
        .clk(clk_sig) , // input  clk_sig
        .reset(reset_sig) ,     // input  reset_sig
        .row(row_sig) , // input [3:0] row_sig
        .col(col_sig) , // output [3:0] col_sig
        .twosCompOutput(twosCompOutput_sig)     // output [N-1:0] twosCompOutput_sig
);

defparam IU8_inst.DIGITS = 4;
defparam IU8_inst.N = 8;
```

1	✔		out	twos...t[0]	Location	PIN_A8	Yes
2	✔		out	twos...t[1]	Location	PIN_A9	Yes
3	✔		out	twos...t[2]	Location	PIN_A10	Yes
4	✔		out	twos...t[3]	Location	PIN_B10	Yes
5	✔		out	twos...t[4]	Location	PIN_D13	Yes
6	✔		out	twos...t[5]	Location	PIN_C13	Yes
7	✔		out	twos...t[6]	Location	PIN_E14	Yes
8	✔		out	twos...t[7]	Location	PIN_D14	Yes
9	✔		in	clk	Location	PIN_P11	Yes
10	✔		in	reset	Location	PIN_B8	Yes
11	✔		out	col[1]	Location	PIN_AA11	Yes
12	✔		out	col[2]	Location	PIN_Y10	Yes
13	✔		out	col[3]	Location	PIN_AB9	Yes
14	✔		in	row[0]	Location	PIN_AB8	Yes
15	✔		in	row[1]	Location	PIN_AB7	Yes
16	✔		in	row[2]	Location	PIN_AB6	Yes
17	✔		in	row[3]	Location	PIN_AB5	Yes
18	✔		out	col[0]	Location	PIN_AA12	Yes