

```

1  `timescale 1ns / 1ps
2  ///////////////////////////////////////////////////////////////////
3  // Company:
4  // Engineer:
5  //
6  // Create Date:      14:35:28 05/16/2016
7  // Design Name:
8  // Module Name:      Slug2
9  // Project Name:
10 // Target Devices:
11 // Tool versions:
12 // Description:
13 //
14 // Dependencies:
15 //
16 // Revision:
17 // Revision 0.01 - File Created
18 // Additional Comments:
19 //
20 ///////////////////////////////////////////////////////////////////
21 module Slug2(
22     input [9:0] H,
23     input [9:0] V,
24     input [9:0] loc,
25     input [3:0] level,
26     input changeColor,
27     input [15:0] flashes,
28     input sec4,
29     input endGame,
30     output [7:0] slug_out,
31     output ChangeDirectionR,
32     output ChangeDirectionL,
33     output LeftBorder,
34     output RightBorder,
35     output SlugRegion
36 );
37 wire RofSlug, LofSlug;
38
39 assign LeftBorder = (H<=8 & H>=0);
40 assign RightBorder = (H>=632 & H<=639);
41
42 assign RofSlug = 72 + (level*8) + loc;
43 assign LofSlug = 8- (level*8) + loc;
44
45 assign SlugRegion = (V <= 420 & V >= 404) & (H <= (72 + (level*8) + loc) & H >= (8- (
    level*8) + loc));
46
47 assign ChangeDirectionR = SlugRegion&LeftBorder;
48 assign ChangeDirectionL = SlugRegion&RightBorder;
49
50 //assign current_size = size;
51 assign slug_out [1] = (SlugRegion&~changeColor | SlugRegion&changeColor&flashes[5])&~
    endGame;
52 assign slug_out [0] = (SlugRegion&~changeColor | SlugRegion&changeColor&flashes[5])&~
    endGame;
53 assign slug_out [2] = SlugRegion&changeColor&flashes[5]&~sec4&~endGame | SlugRegion&
    endGame&flashes[4];
54 assign slug_out [3] = SlugRegion&changeColor&flashes[5]&~sec4 | SlugRegion&endGame&

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```
    flashes[4];
55  assign slug_out [4] = SlugRegion&changeColor&flashes[5]&~sec4 | SlugRegion&endGame&
    flashes[4];
56  assign slug_out [5] = SlugRegion&endGame&flashes[4];
57  assign slug_out [6] = SlugRegion&endGame&flashes[4];
58  assign slug_out [7] = SlugRegion&endGame&flashes[4];
59
60  endmodule
61
```