**比较器**

**module** bijiaoqi(

x,y,xgy,xsy,xey

);

**input**[3:0] x,y;

**output** xgy,xsy,xey;

**reg** xgy,xsy,xey;

**always**@(x **or** y)

**begin**

**if**(x==y)

xey=1;

**else** xey=0;

**if**(x>y)

xgy=1;

**else** xgy =0;

**if**(x<y)

xsy =1;

**else** xsy = 0;

**end**

**endmodule**

**initial** **begin**

*// Initialize Inputs*

x = 0;

y = 0;

*// Wait 100 ns for global reset to finish*

#100;

x = 4'b0010;

y = 4'b1010;

*// Add stimulus here*

**end**

**endmodule**

3-8译码器

**module** sanba(data\_out,data\_in,enable

);

**input**[2:0] data\_in;

**input** enable;

**output**[7:0] data\_out;

**reg**[7:0] data\_out;

**always**@(\*)

**begin**

**if**(enable == 1)

**case** (data\_in)

3'b000: data\_out=8'b11111110;

3'b001: data\_out=8'b11111101;

3'b010: data\_out=8'b11111011;

3'b011: data\_out=8'b11110111;

3'b100: data\_out=8'b11101111;

3'b101: data\_out=8'b11011111;

3'b110: data\_out=8'b10111111;

3'b111: data\_out=8'b01111111;

**default**: data\_out=8'bxxxxxxxx;

**endcase**

**else**

data\_out=8'b11111111;

**end**

**endmodule**

**initial** **begin**

*// Initialize Inputs*

data\_in = 0;

enable = 0;

*// Wait 100 ns for global reset to finish*

#100;

data\_in = 3'b010;

enable = 1;

*// Add stimulus here*

**end**

**endmodule**

**加乘**

**module** jiacheng(

**input**[5:0] a,

**input**[5:0] b,

**input**[1:0] sl,*//????*

**output** **reg**[6:0] c

);

**always** @(\*) **begin**

**case**(sl)

2'b00 : c = a + b;

2'b11 : c = a \* b ;

**endcase**

**end**

**endmodule**

**initial** **begin**

*// Initialize Inputs*

a = 0;

b = 0;

sl = 0;

*// Wait 100 ns for global reset to finish*

#100;

a = 6'b000100;

b = 6'b001010;

sl = 2'b11;

*// Add stimulus here*

**end**

**endmodule**

加减

**module** jiajian(

**input**[5:0] a,

**input**[5:0] b,

**input**[1:0] sl,

**output** **reg**[6:0] c

);

**always** @(\*) **begin**

**case**(sl)

2'b00 : c = a + b;

2'b11 : c = a - b ;

**endcase**

**end**

**endmodule**

**initial** **begin**

*// Initialize Inputs*

a = 0;

b = 0;

sl = 0;

*// Wait 100 ns for global reset to finish*

#100;

a = 6'b000100;

b = 6'b001010;

sl = 00;

*// Add stimulus here*

**end**

**endmodule**

**减乘**

**module** jiancheng(

**input**[5:0] a,

**input**[5:0] b,

**input**[1:0] sl,*//¿ª¹Ø*

**output** **reg**[6:0] c

);

**always** @(\*) **begin**

**case**(sl)

2'b00 : c = a - b;

2'b11 : c = a \* b ;

**endcase**

**end**

**endmodule**

**initial** **begin**

*// Initialize Inputs*

a = 0;

b = 0;

sl = 0;

*// Wait 100 ns for global reset to finish*

#100;

a = 6'b000100;

b = 6'b001010;

sl = 2'b11;

*// Add stimulus here*

**end**

**endmodule**

**流水灯8个从左往右**

**module** liushuideng(**output** [7:0] led,

**input** clk );

**reg** [7:0] k;

**assign**

led=k;

**initial**

**begin**

k=8'b00000001;

**end**

**always**@(**posedge** clk)

**begin**

**if**(clk==1)

k={k[6:0],k[7]};

**end**

**endmodule**

**initial**

*// Initialize Inputs*

clk = 1;

**always**

**begin**

# 100;

clk=0;

# 100;

clk=1;

*// Wait 100 ns for global reset to finish*

*// Add stimulus here*

**end**

**endmodule**

**七人表决器**

**module** seven(

**input** A1,

**input** A2,

**input** A3,

**input** A4,

**input** A5,

**input** A6,

**input** A7,

**output** **reg** OUT

);

**reg**[3:0] result;

**always** @(\*) **begin**

result = A1 + A2 + A3 + A4 + A5 + A6 + A7;

**if**(result >= 4)

OUT = 1'b1;

**else**

OUT = 1'b0;

**end**

**endmodule**

**initial** **begin**

*// Initialize Inputs*

A1 = 0;

A2 = 0;

A3 = 0;

A4 = 0;

A5 = 0;

A6 = 0;

A7 = 0;

*// Wait 100 ns for global reset to finish*

#100;

A1 = 0;

A2 = 0;

A3 = 0;

A4 = 1;

A5 = 1;

A6 = 1;

A7 = 1;

*// Add stimulus here*

**end**

**endmodule**

**四选一**

**module** fourToOne(addr,in1,in2,in3,in4,Mout

);

**input**[1:0]addr;

**input**[3:0]in1,in2,in3,in4;

**output**[3:0]Mout;

**reg**[3:0]Mout;

**always**@(\*)

**begin**

**case**(addr)

4'b000:Mout=in1;

4'b001:Mout=in2;

4'b010:Mout=in3;

4'b011:Mout=in4;

**endcase**

**end**

**endmodule**

**initial** **begin**

*// Initialize Inputs*

addr = 0;

in1 = 0;

in2 = 0;

in3 = 0;

in4 = 0;

*// Wait 100 ns for global reset to finish*

#100;

addr = 2'b00;

in1 = 4'b0001;

in2= 4'b0010;

in3 = 4'b0100;

in4 = 4'b1000;

*// Add stimulus here*

**end**

**endmodule**

**五人表决器**

**module** five(

**input** A1,

**input** A2,

**input** A3,

**input** A4,

**input** A5,

**output** **reg** OUT

);

**reg**[3:0] result;

**always** @(\*) **begin**

result = A1 + A2 + A3 + A4 + A5;

**if**(result >= 3)

OUT = 1'b1;

**else**

OUT = 1'b0;

**end**

**endmodule**

**initial** **begin**

*// Initialize Inputs*

A1 = 0;

A2 = 0;

A3 = 0;

A4 = 0;

A5 = 0;

*// Wait 100 ns for global reset to finish*

#100;

A1 = 1;

A2= 1;

A3=0;

A4=0;

A5=0;

*// Add stimulus here*

**end**

**endmodule**