module RAM\_t\_b\_a(fun\_select,A,B,HEX0,HEX2,HEX4);

input[1:0] fun\_select; // Input for function selector

input[2:0] A,B; // 3-Bit Input for A and B

//output[3:0] F; // Output of 4 bit assuming carry.

reg[3:0] F;

// reg[3:0] F1;

output[13:0] HEX2,HEX4,HEX0;

reg s;

display dispA(A,HEX0);

display dispB(B,HEX2);

display dispF(F,HEX4,s);

always @(\*)

begin

case(fun\_select)

2'b00:begin F=A+B; s=1; end // Addition

2'b01:begin F=A-B; s=0;end // Subtraction

2'b10:begin F=A^B; s=1;end // A XOR B

2'b11:begin F=A<<1; s=1;end // Left Shift on A

endcase

end

endmodule

module display(In,Out,s);

input [3:0] In;

input s;

output [13:0] Out;

reg [13:0] Out;

always @(\*)

begin

if(s==1)

begin

case(In)

4'b0000: Out=14'b11111111000000; //0

4'b0001: Out=14'b11111111111001; //1

4'b0010: Out=14'b11111110100100; //2

4'b0011: Out=14'b11111110110000; //3

4'b0100: Out=14'b11111110011001; //4

4'b0101: Out=14'b11111110010010; //5

4'b0110: Out=14'b11111110000010; //6

4'b0111: Out=14'b11111111111000; //7

4'b1000: Out=14'b11111110000000; //8

4'b1001: Out=14'b11111110011000; //9

4'b1010: Out=14'b11110011000000; //10

4'b1011: Out=14'b11110011111001; //11

4'b1100: Out=14'b11110010100100; //12

4'b1101: Out=14'b11110010110000; //13

4'b1110: Out=14'b11110010011001; //14

4'b1111: Out=14'b11110010010010; //15

endcase

end

else

begin

case(In)

4'b0000: Out=14'b11111111000000; //0

4'b0001: Out=14'b11111111111001; //1

4'b0010: Out=14'b11111110100100; //2

4'b0011: Out=14'b11111110110000; //3

4'b0100: Out=14'b11111110011001; //4

4'b0101: Out=14'b11111110010010; //5

4'b0110: Out=14'b11111110000010; //6

4'b0111: Out=14'b11111111111000; //7

4'b1000: Out=14'b01111111111000; //8

4'b1001: Out=14'b01111111111000; //9

4'b1010: Out=14'b01111110000010; //10

4'b1011: Out=14'b01111110010010; //11

4'b1100: Out=14'b01111110011001; //12

4'b1101: Out=14'b01111110110000; //13

4'b1110: Out=14'b01111110100100; //14

4'b1111: Out=14'b01111111111001; //15

endcase

end

end

endmodule

PIN\_T13

PIN\_V13

PIN\_U13

PIN\_AB15

PIN\_AA15

PIN\_T12

PIN\_U22

PIN\_AA17

PIN\_AB18

PIN\_AA18

PIN\_AA19

PIN\_AB20

PIN\_AA20

PIN\_AA22

PIN\_Y21

PIN\_Y22

PIN\_W21

PIN\_W22

PIN\_V21

PIN\_U21

PIN\_V19

PIN\_V18

PIN\_U17

PIN\_V16

PIN\_Y17

PIN\_W16

PIN\_Y16

PIN\_AB21

PIN\_AB22

PIN\_V14

PIN\_Y14

PIN\_AA10

PIN\_AB17

PIN\_Y19

PIN\_W19

PIN\_C2

PIN\_C1

PIN\_P14

PIN\_T14

PIN\_M8

PIN\_N9

PIN\_P9

PIN\_Y15

PIN\_U15

PIN\_U16

PIN\_V20

PIN\_Y20

PIN\_U20

PIN\_AB12

PIN\_AB13