Lab 6 report

23b1269

Foram trivedi

Pen paper design
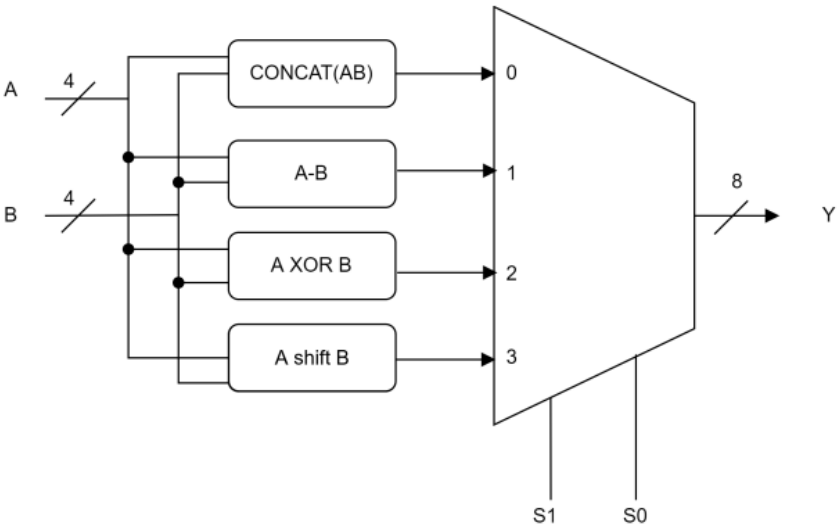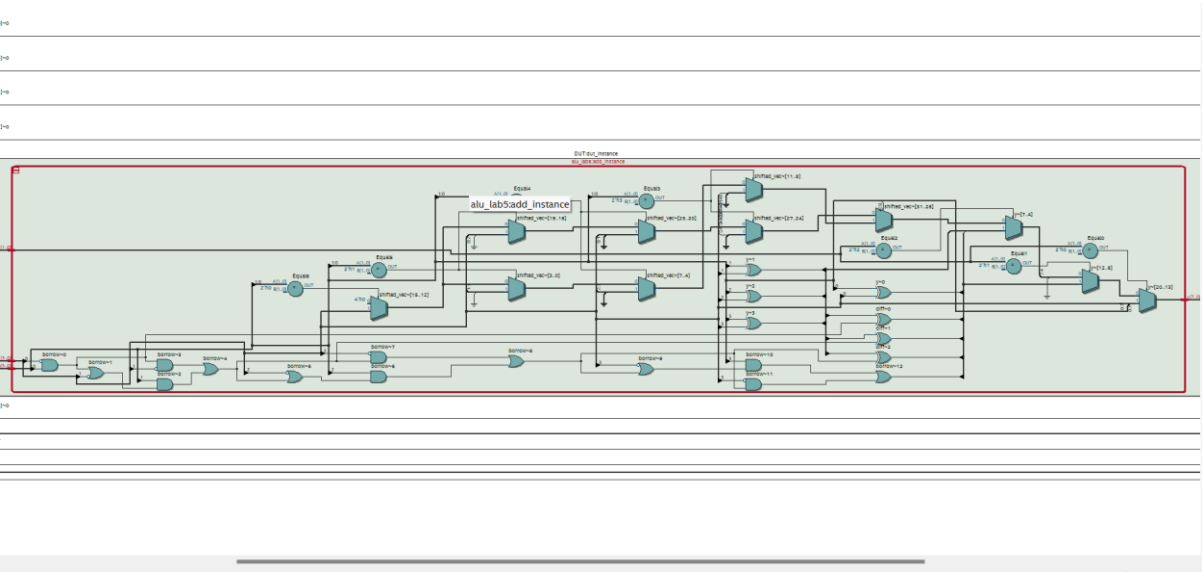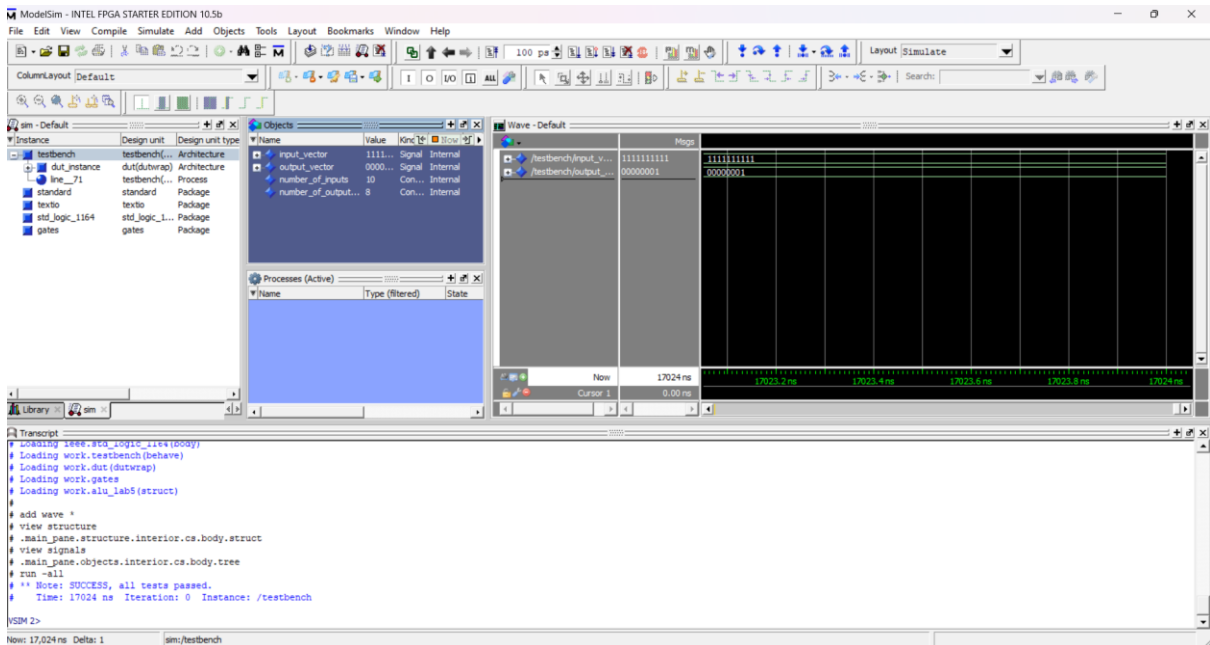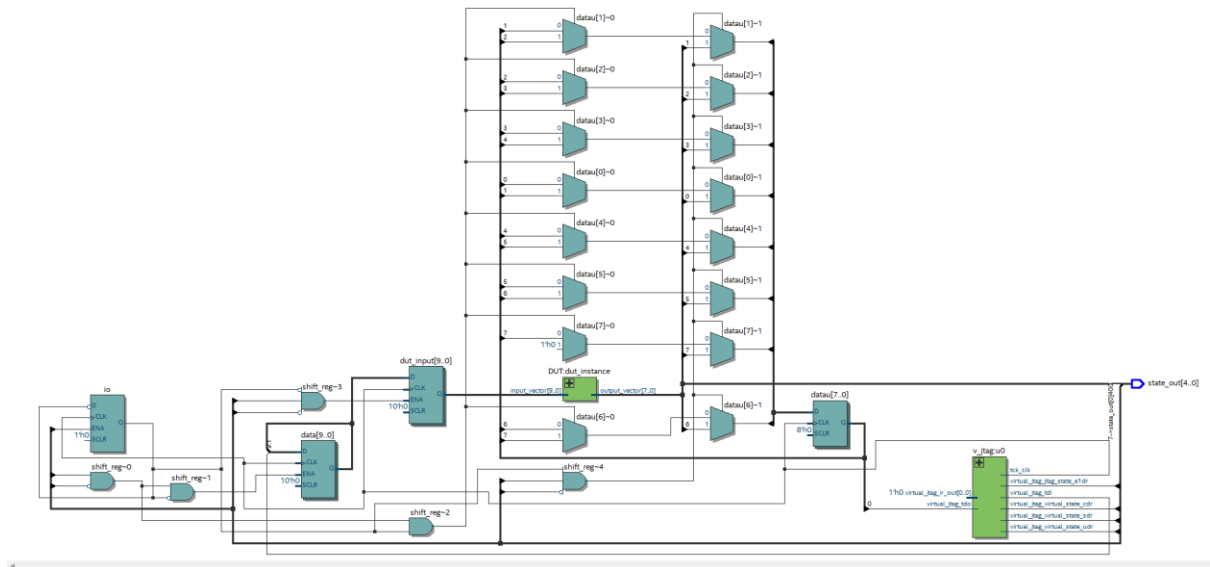

Figure 1: ALU with 4 functions

S1 S0	ALU Output
0 0	Concatenate two 4-bit inputs A and B
0 1	Performs A-B Operation
1 0	Performs A xor B Operation
1 1	Shift A by B bits [B3 - 0(left)/1(right)] [B2 - unused] [B1 B0 - no. of bits to be shifted]

Simulations

Scan chain output

```
0000000000 00000000 Success
0000000001 00000001 Success
0000000010 00000010 Success
0000000011 00000011 Success
0000000100 00000100 Success
0000000101 00000101 Success
0000000110 00000110 Success
0000000111 00000111 Success
0000001000 00001000 Success
0000001001 00001001 Success
0000001010 00001010 Success
0000001011 00001011 Success
0000001100 00001100 Success
0000001101 00001101 Success
0000001110 00001110 Success
0000001111 00001111 Success
0000010000 00010000 Success
0000010001 00010001 Success
0000010010 00010010 Success
0000010011 00010011 Success
0000010100 00010100 Success
0000010101 00010101 Success
0000010110 00010110 Success
0000010111 00010111 Success
0000011000 00011000 Success
0000011001 00011001 Success
0000011010 00011010 Success
0000011011 00011011 Success
0000011100 00011100 Success
0000011101 00011101 Success
0000011110 00011110 Success
0000011111 00011111 Success
0000100000 00100000 Success
0000100001 00100001 Success
0000100010 00100010 Success
```