CSE 331 COMPUTER ORGANIZATION

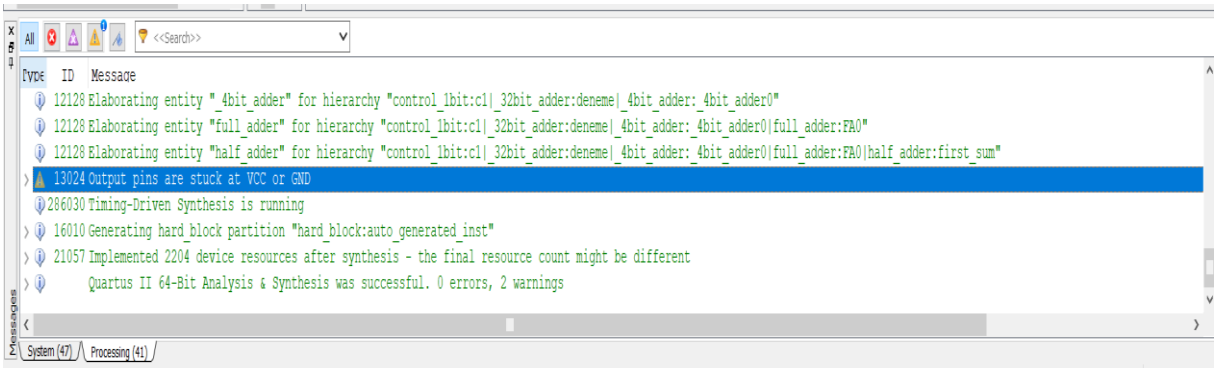
UĞUR ER

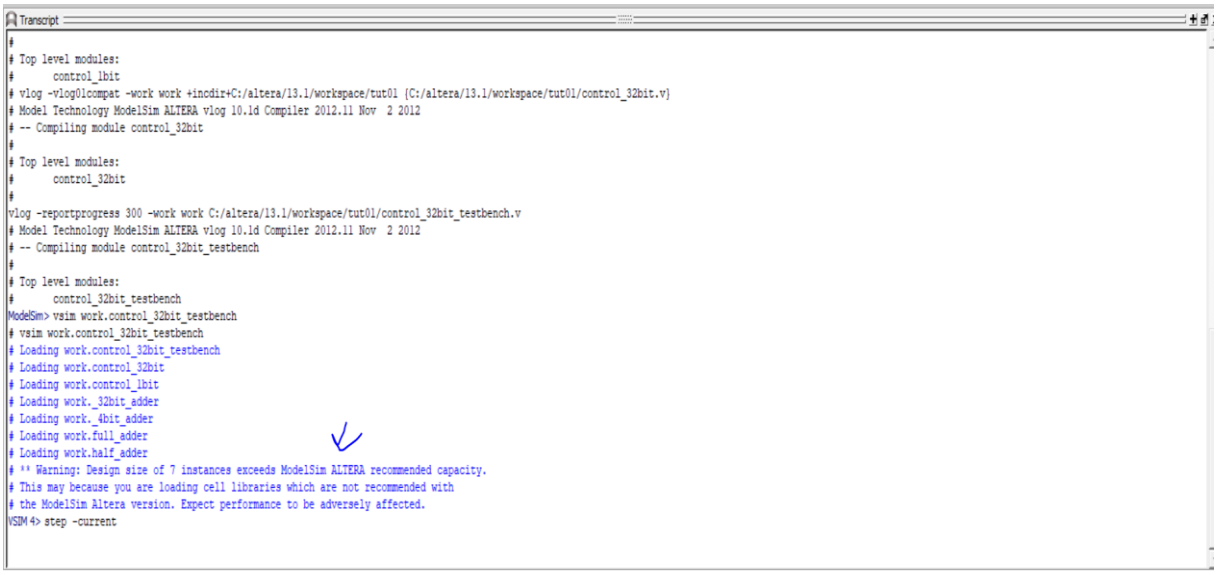
1901042262

PART1:

Control1bit and control32bit.

Sir, I made part1 over the internet from an online compiler. When I run it on Modelsim, it gave a warning and didn't work. I still uploaded it. It says modelsim is not supported.

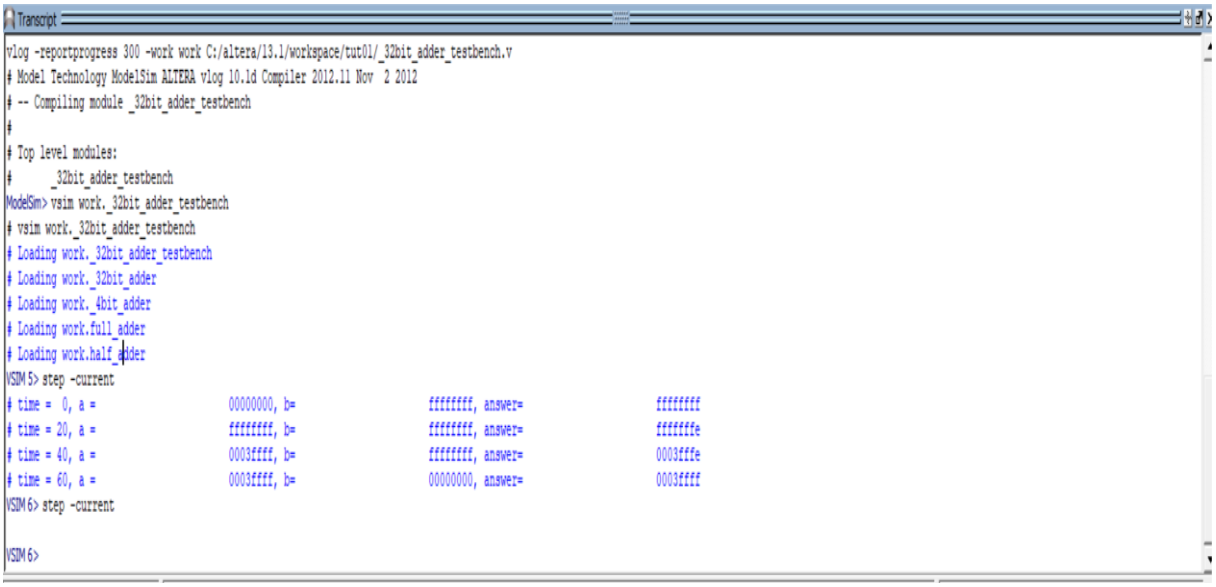




PART2

1-)32 BIT ADDER

First the half adder was designed. then a full adder was made from a half adder. then 4_bit_adder was made using full adder. Then 32_bit_adder was designed using 8 4_bit_adders.



2-)XOR

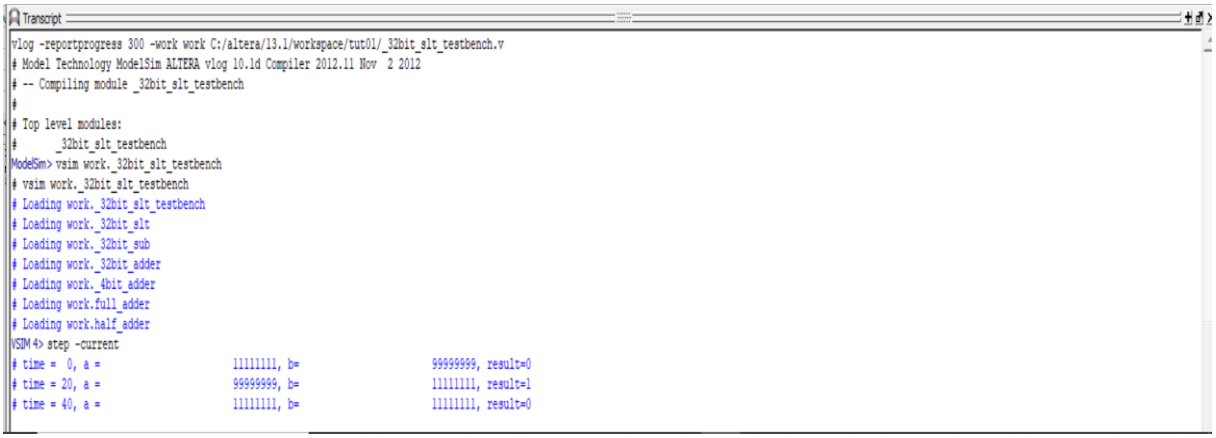
32 1-bit xor operations were performed using for.

3-)SUB

After performing the not operation on the 2nd input, addition(32bitadder) the 2nd input with the 1st input was called.

4-)SLT

Subtracts 2 numbers and returns the number in bit 32 as the result



5-)NOR

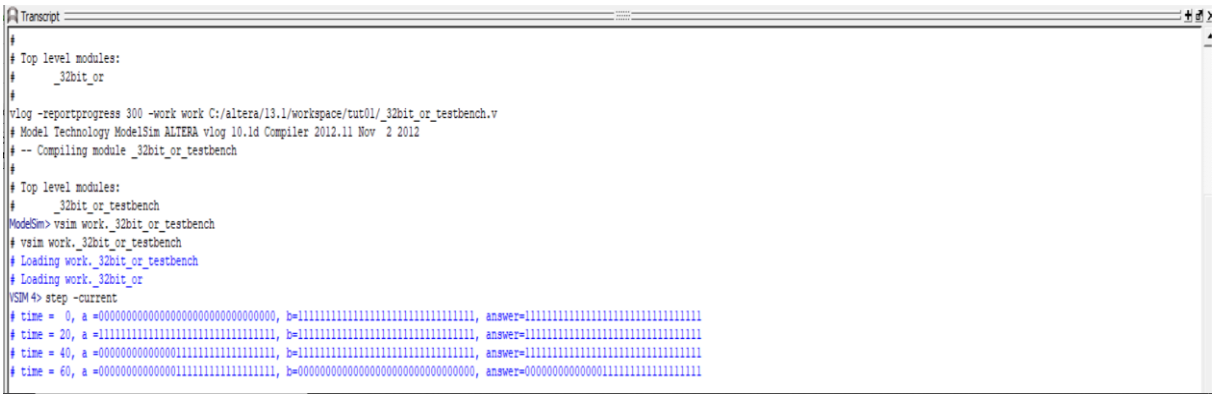
32 1-bit nor operations were performed using for.

6-)AND

32 1-bit and operations were performed using for.

7-)OR

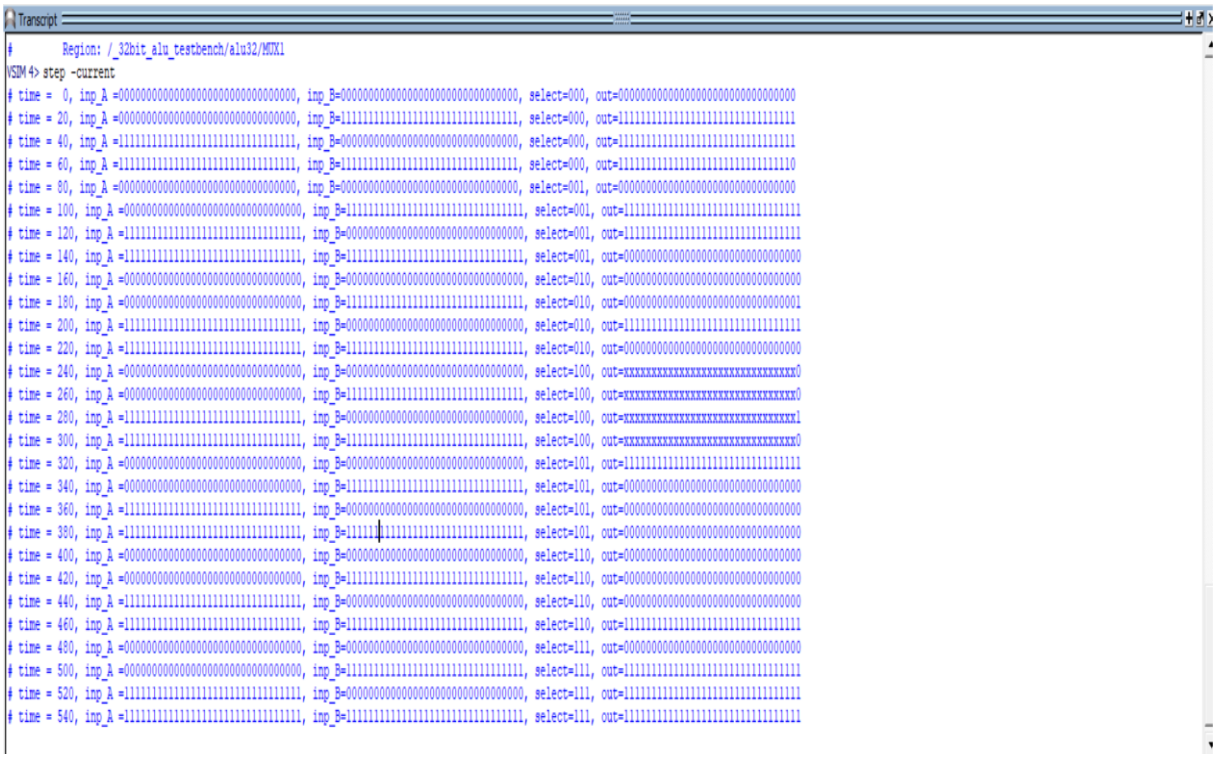
32 1-bit or operations were performed using for.



8-)MUX32bit

32 1bit 8e3 muxes are used.

9-)ALU


Transcript
Region: /_32bit_alu_testbench/alu32/MUX1
VSIM 4> step -current
time = 0, inp_A =00000000000000000000000000000000, inp_B=00000000000000000000000000000000, select=000, out=00000000000000000000000000000000
time = 20, inp_A =00000000000000000000000000000000, inp_B=11111111111111111111111111111111, select=000, out=11111111111111111111111111111111
time = 40, inp_A =11111111111111111111111111111111, inp_B=00000000000000000000000000000000, select=000, out=11111111111111111111111111111111
time = 60, inp_A =11111111111111111111111111111111, inp_B=11111111111111111111111111111111, select=000, out=11111111111111111111111111111110
time = 80, inp_A =00000000000000000000000000000000, inp_B=00000000000000000000000000000000, select=001, out=00000000000000000000000000000000
time = 100, inp_A =00000000000000000000000000000000, inp_B=11111111111111111111111111111111, select=001, out=11111111111111111111111111111111
time = 120, inp_A =11111111111111111111111111111111, inp_B=00000000000000000000000000000000, select=001, out=11111111111111111111111111111111
time = 140, inp_A =11111111111111111111111111111111, inp_B=11111111111111111111111111111111, select=001, out=00000000000000000000000000000000
time = 160, inp_A =00000000000000000000000000000000, inp_B=00000000000000000000000000000000, select=010, out=00000000000000000000000000000000
time = 180, inp_A =00000000000000000000000000000000, inp_B=11111111111111111111111111111111, select=010, out=00000000000000000000000000000001
time = 200, inp_A =11111111111111111111111111111111, inp_B=00000000000000000000000000000000, select=010, out=11111111111111111111111111111111
time = 220, inp_A =11111111111111111111111111111111, inp_B=11111111111111111111111111111111, select=010, out=00000000000000000000000000000000
time = 240, inp_A =00000000000000000000000000000000, inp_B=00000000000000000000000000000000, select=100, out=xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx0
time = 260, inp_A =00000000000000000000000000000000, inp_B=11111111111111111111111111111111, select=100, out=xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx0
time = 280, inp_A =11111111111111111111111111111111, inp_B=00000000000000000000000000000000, select=100, out=xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx1
time = 300, inp_A =11111111111111111111111111111111, inp_B=11111111111111111111111111111111, select=100, out=xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx0
time = 320, inp_A =00000000000000000000000000000000, inp_B=00000000000000000000000000000000, select=101, out=11111111111111111111111111111111
time = 340, inp_A =00000000000000000000000000000000, inp_B=11111111111111111111111111111111, select=101, out=00000000000000000000000000000000
time = 360, inp_A =11111111111111111111111111111111, inp_B=00000000000000000000000000000000, select=101, out=00000000000000000000000000000000
time = 380, inp_A =11111111111111111111111111111111, inp_B=11111111111111111111111111111111, select=101, out=00000000000000000000000000000000
time = 400, inp_A =00000000000000000000000000000000, inp_B=00000000000000000000000000000000, select=110, out=00000000000000000000000000000000
time = 420, inp_A =00000000000000000000000000000000, inp_B=11111111111111111111111111111111, select=110, out=00000000000000000000000000000000
time = 440, inp_A =11111111111111111111111111111111, inp_B=00000000000000000000000000000000, select=110, out=00000000000000000000000000000000
time = 460, inp_A =11111111111111111111111111111111, inp_B=11111111111111111111111111111111, select=110, out=11111111111111111111111111111111
time = 480, inp_A =00000000000000000000000000000000, inp_B=00000000000000000000000000000000, select=111, out=00000000000000000000000000000000
time = 500, inp_A =00000000000000000000000000000000, inp_B=11111111111111111111111111111111, select=111, out=11111111111111111111111111111111
time = 520, inp_A =11111111111111111111111111111111, inp_B=00000000000000000000000000000000, select=111, out=11111111111111111111111111111111
time = 540, inp_A =11111111111111111111111111111111, inp_B=11111111111111111111111111111111, select=111, out=11111111111111111111111111111111