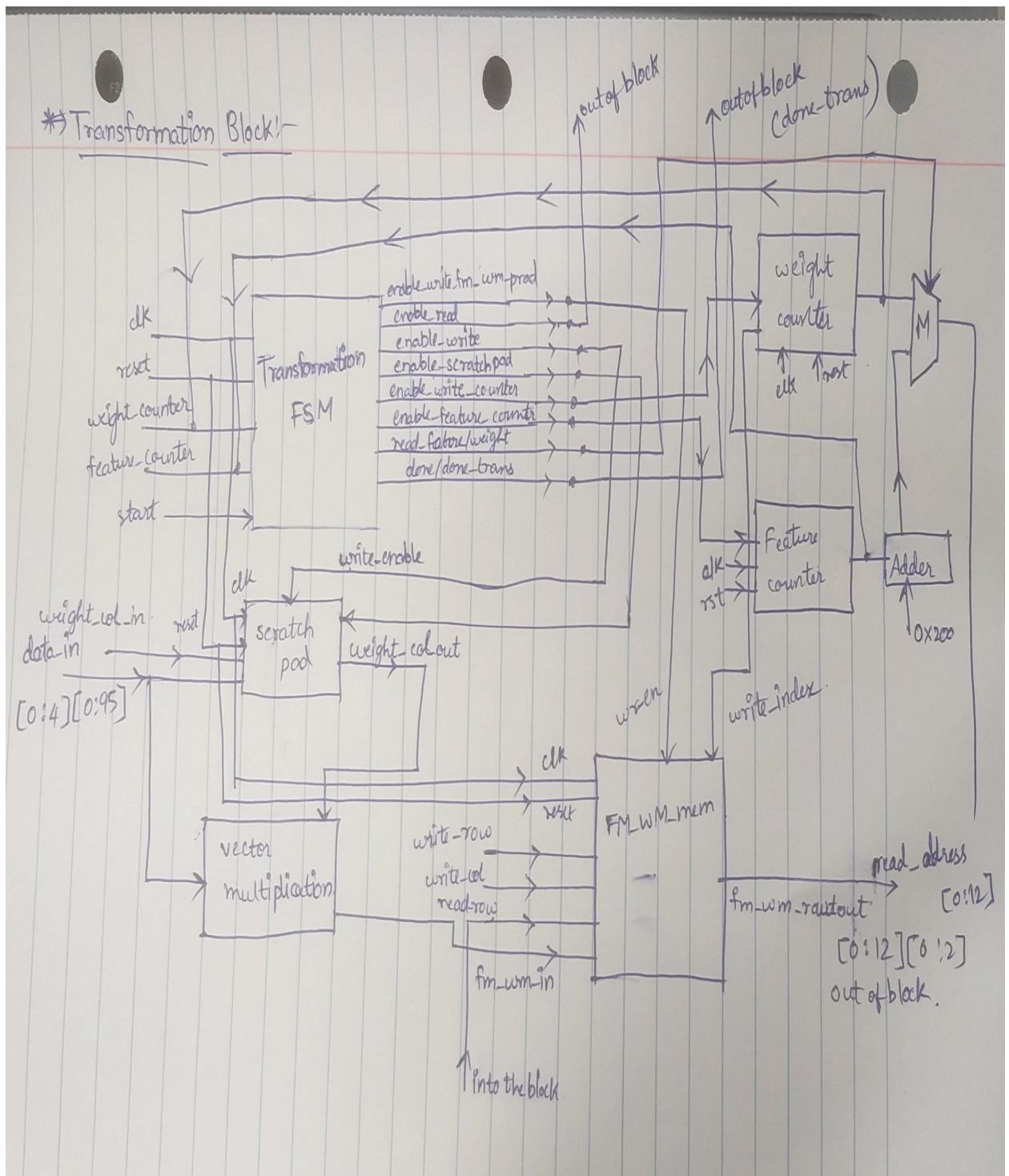


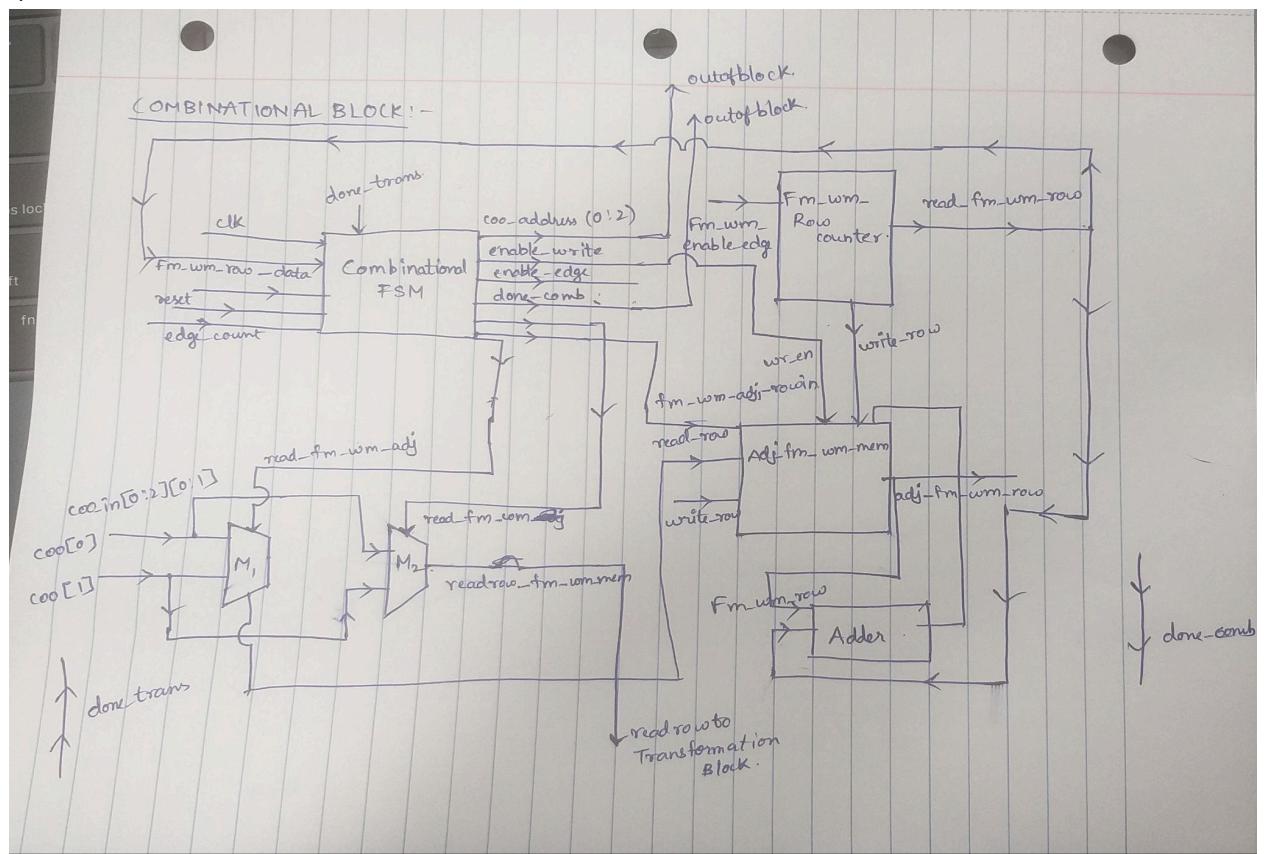
EEE 525 LAB4-1

1. Architecture/High-level Block Diagram:

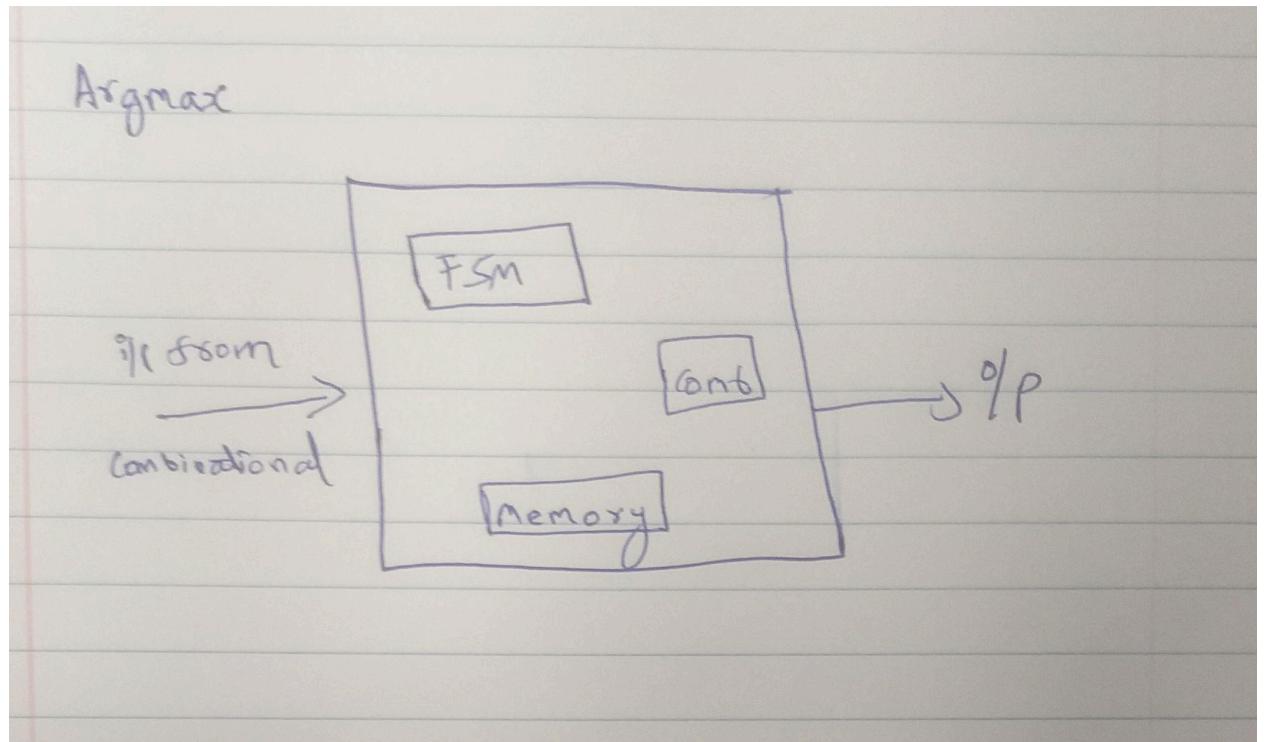
i)



ii)



iii)



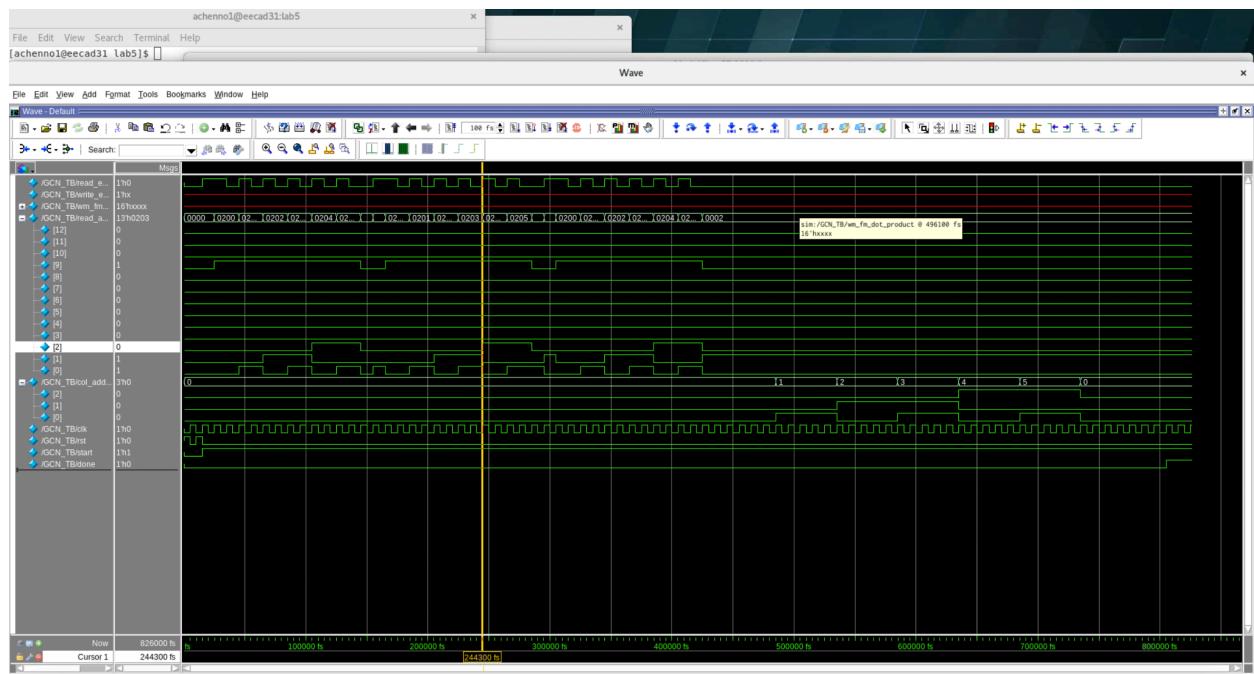
Design decisions

Feature Matrix	1st row	2nd row	3	4	5	6
Weight Matrix	1st col	2nd col	3	4	5	6

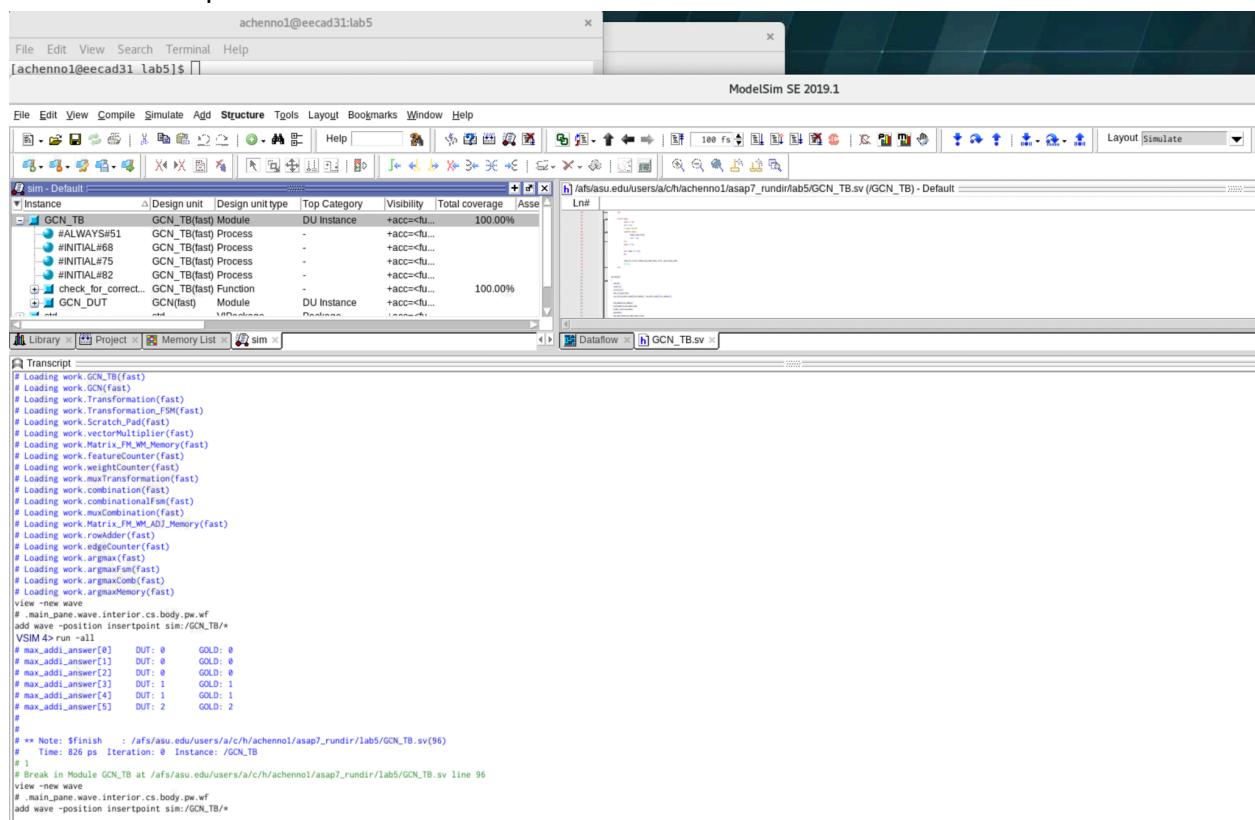
Multi-Plication	row1 x col1 row6 x col6
-----------------	-------------------------------

Translate addition	translate COO matrix and add to adj matrix
--------------------	--

Behavioral Verilog – Simulation:



Transcript



```

achennol@eecd31:lab5$ 
File Edit View Search Terminal Help
[achennol@eecd31 lab5]$ 
ModelSim SE 2019.1
File Edit View Compile Simulate Add Structure Tools Layout Bookmarks Window Help
File Edit View Compile Simulate Add Structure Tools Layout Bookmarks Window Help
sim - Default 
Instance Design unit Design unit type Top Category Visibility Total coverage Asse
GCN_TB GCN_TB(fast) Module DU Instance +acc<flw... 100.00%
#ALWAYS#51 GCN_TB(fast) Process - +acc<flw...
#INITIAL#68 GCN_TB(fast) Process - +acc<flw...
#INITIAL#75 GCN_TB(fast) Process - +acc<flw...
#INITIAL#82 GCN_TB(fast) Process - +acc<flw...
check_for_correct_ GCN_TB(fast) Function - +acc<flw...
GCN_DUT GCN(fast) Module DU Instance +acc<flw...
Lni# Dataflow GCN_TB.sv
Library Project Memory List sim 
Transcript
# Loading work.GCN_TB(fast)
# Loading work.GCN(fast)
# Loading work.mathOperation(fast)
# Loading work.Transformation(SIMfast)
# Loading work.ScratchPad(fast)
# Loading work.vectorMultiplier(fast)
# Loading work.Matrix_FM_MMMemory(fast)
# Loading work.FeatureDetector(fast)
# Loading work.ConvolutionCount(fast)
# Loading work.maxTransformation(fast)
# Loading work.combinationalfMs(fast)
# Loading work.convolutionalfMs(fast)
# Loading work.Mux(fast)
# Loading work.PReLU(fast)
# Loading work.rowWidder(fast)
# Loading work.edgeCounter(fast)
# Loading work.argmax(fast)
# Loading work.argmaxfSm(fast)
# Loading work.argmaxfConv(fast)
# Loading work.argmaxMemory(fast)
view -new wave
#_main_pane.wave.interior.cs.body.pw.wf
add wave -position insertpoint sim:/GCN_TB/*
VSM 4> run all
# max._addi_answer[0] DUT: 0 GOLD: 0
# max._addi_answer[1] DUT: 0 GOLD: 0
# max._addi_answer[2] DUT: 0 GOLD: 0
# max._addi_answer[3] DUT: 1 GOLD: 1
# max._addi_answer[4] DUT: 1 GOLD: 1
# max._addi_answer[5] DUT: 2 GOLD: 2
#
# ** Note: $finish : /afs/asu.edu/users/a/c/h/achennol/asap7_rundir/lab5/GCN_TB.sv(96)
# Time: 826 ps Iteration: 0 Instance: /GCN_TB
# 1
# Break in Module GCN_TB at /afs/asu.edu/users/a/c/h/achennol/asap7_rundir/lab5/GCN_TB.sv line 96
view -new wave
#_main_pane.wave.interior.cs.body.pw.wf
add wave -position insertpoint sim:/GCN_TB/*

```

Post_Synthesis – Simulation:

