University of Jordan

Digital System Design – 0907534

Maximum Minimum Calculator HW

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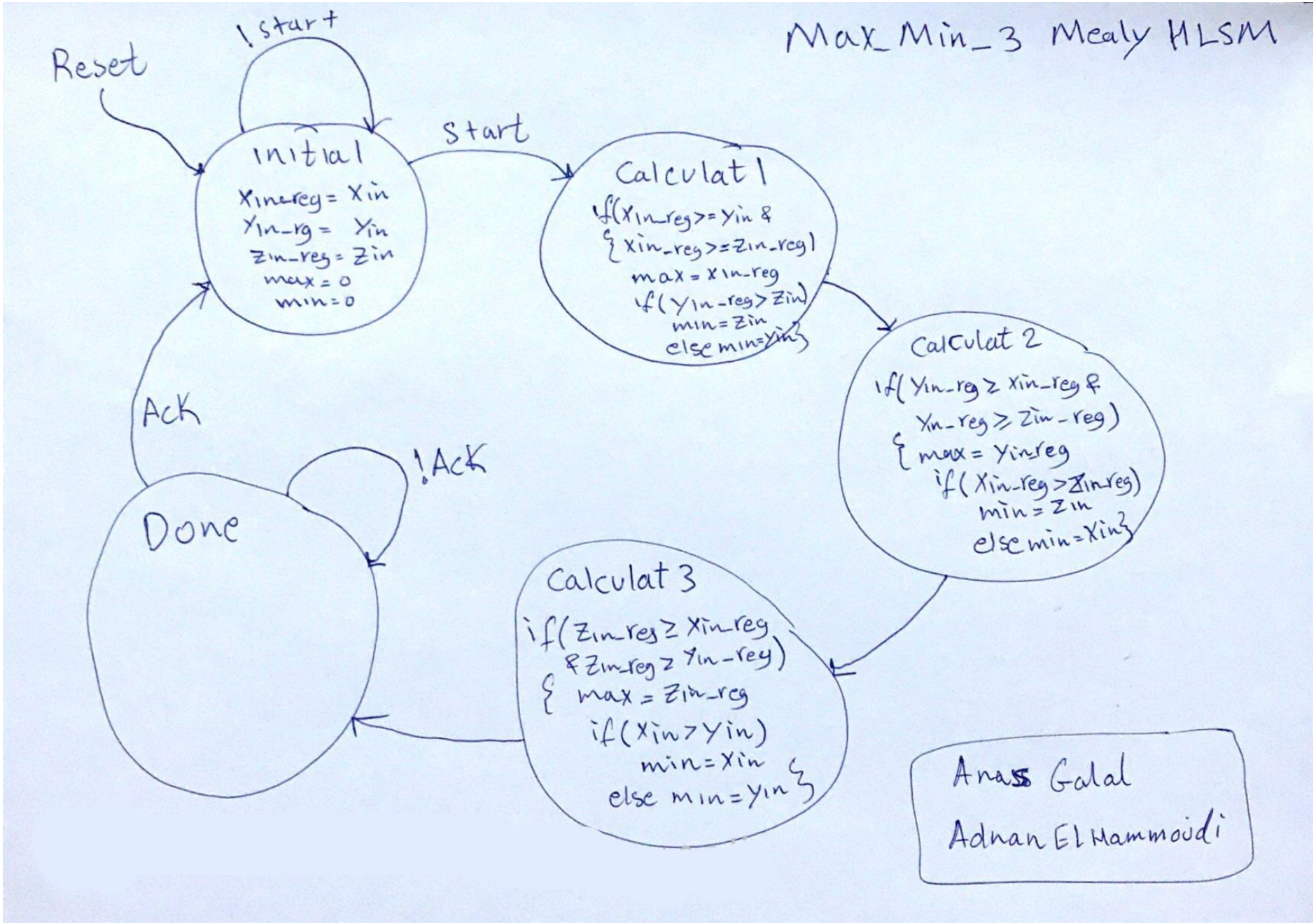
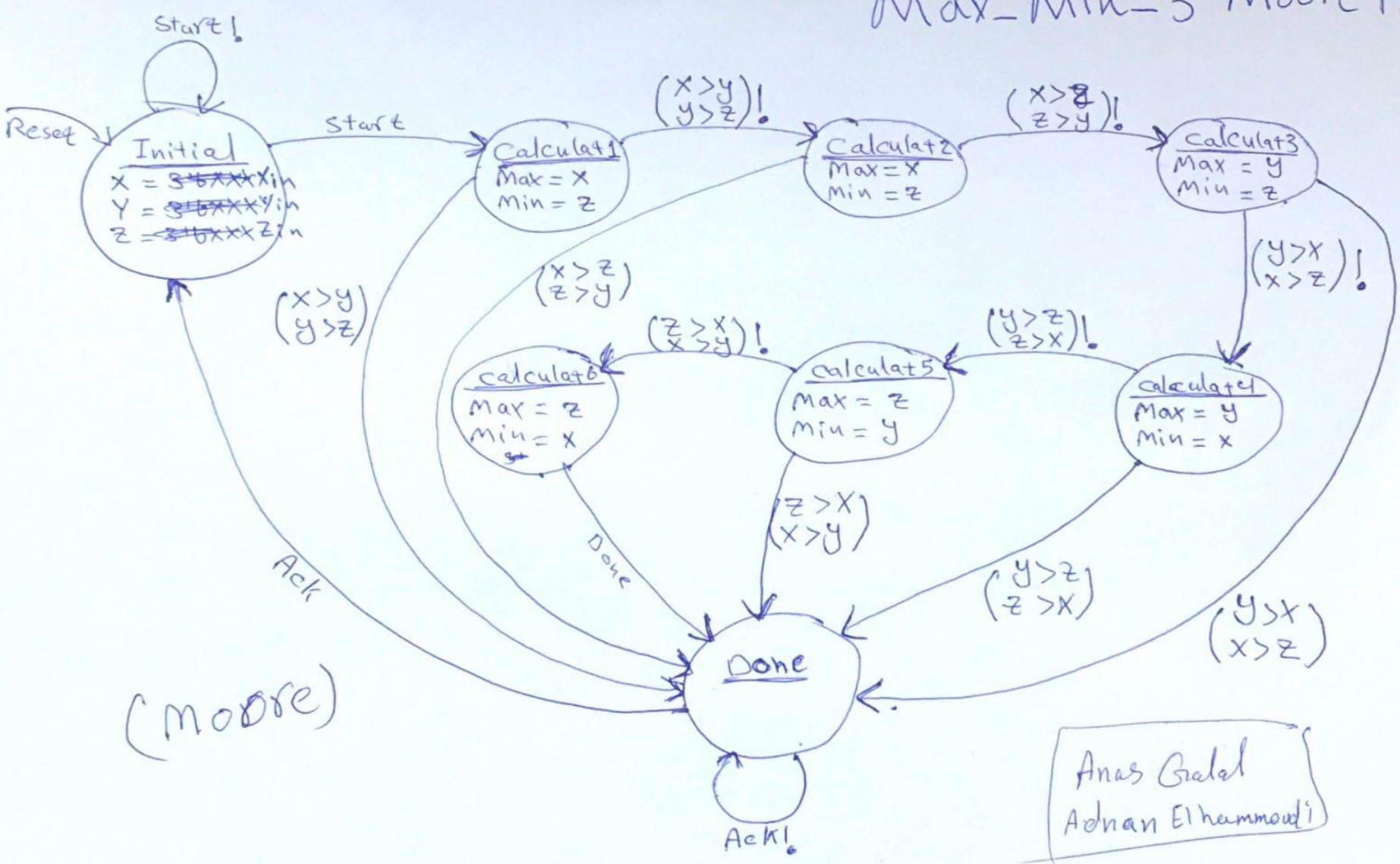

Max_Min_3 Mealy HLSM
Reset
!start
Initial
Xin_reg = Xin
Yin_rg = Yin
Zin_reg = Zin
max = 0
min = 0
start
Calculat 1
if(Xin_reg >= Yin &
{ Xin_reg >= Zin_reg)
max = Xin_reg
if(Yin_reg > Zin)
min = Zin
else min = Yin }
Calculat 2
if(Yin_reg ≥ Xin_reg &
Yin_reg ≥ Zin_reg)
{ max = Yin_reg
if(Xin_reg > Zin_reg)
min = Zin
else min = Xin }
Calculat 3
if(Zin_reg ≥ Xin_reg
& Zin_reg ≥ Yin_reg)
{ max = Zin_reg
if(Xin > Yin)
min = Xin
else min = Yin }
Done
!Ack
Ack
Anas Galal
Adnan El Hammoudi

Max_Min_3 Moore HLSM



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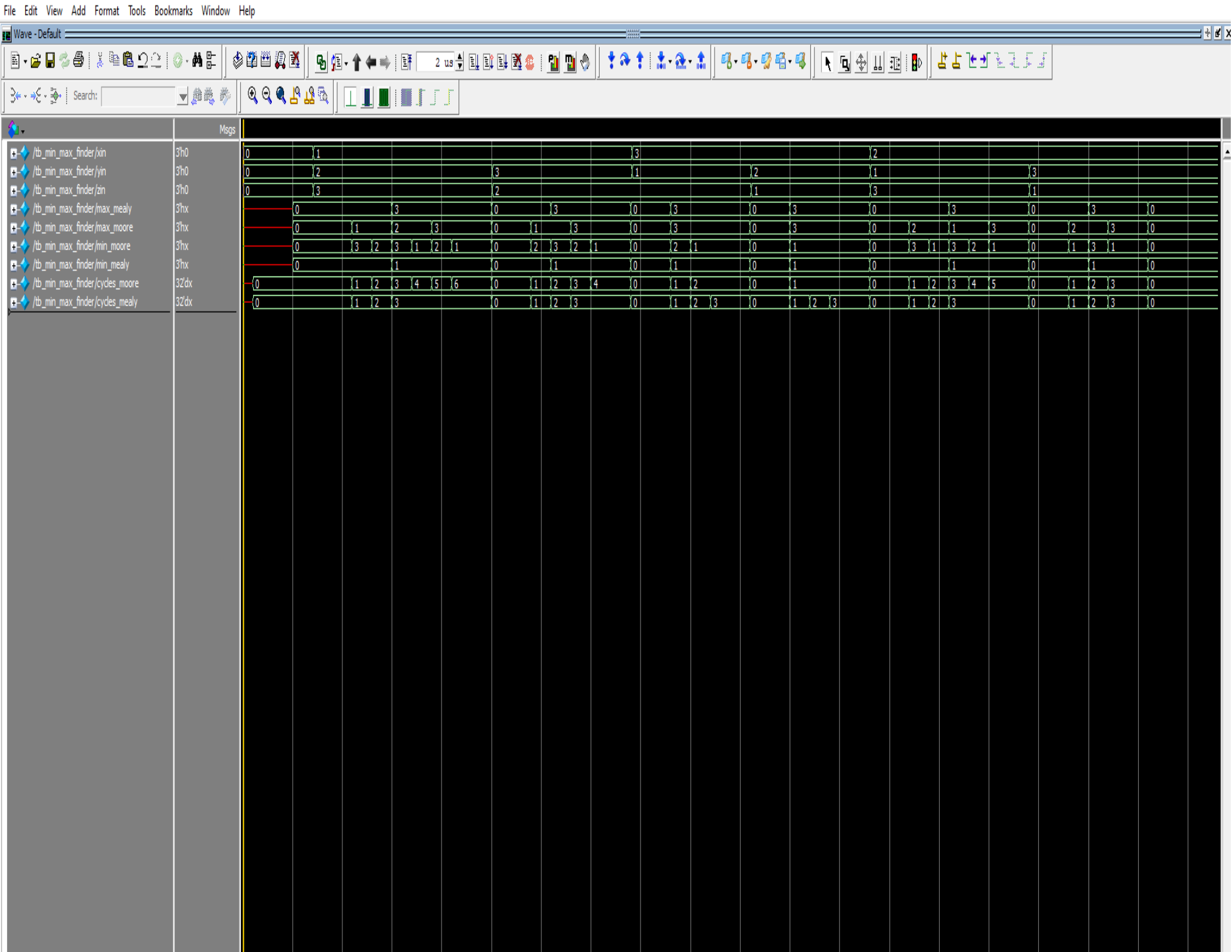
```
VSIM(paused)> run
# Inputs:   Xin = 1 and Yin = 2 and Zin = 3
# Moore Results:  Max = 3 and Min = 1 and Cyles =           6
# Mealy Results:  Max = 3 and Min = 1 and Cyles =           3
# Inputs:   Xin = 1 and Yin = 3 and Zin = 2
# Moore Results:  Max = 3 and Min = 1 and Cyles =           4
# Mealy Results:  Max = 3 and Min = 1 and Cyles =           3
# Inputs:   Xin = 3 and Yin = 1 and Zin = 2
# Moore Results:  Max = 3 and Min = 1 and Cyles =           2
# Mealy Results:  Max = 3 and Min = 1 and Cyles =           3
# Inputs:   Xin = 3 and Yin = 2 and Zin = 1
# Moore Results:  Max = 3 and Min = 1 and Cyles =           1
# Mealy Results:  Max = 3 and Min = 1 and Cyles =           3
# Inputs:   Xin = 2 and Yin = 1 and Zin = 3
# Moore Results:  Max = 3 and Min = 1 and Cyles =           5
# Mealy Results:  Max = 3 and Min = 1 and Cyles =           3
# Inputs:   Xin = 2 and Yin = 3 and Zin = 1
# Moore Results:  Max = 3 and Min = 1 and Cyles =           3
# Mealy Results:  Max = 3 and Min = 1 and Cyles =           3
write format wave -window .main_pane.wave.interior.cs.body.pw.wf C:/Users/

VSIM(paused)>
```


File Edit View Add Format Tools Bookmarks Window Help
Wave - Default
Search:
Msgs
/tb_min_max_finder/xin
/tb_min_max_finder/yin
/tb_min_max_finder/zin
/tb_min_max_finder/max_mealy
/tb_min_max_finder/max_moore
/tb_min_max_finder/min_moore
/tb_min_max_finder/min_mealy
/tb_min_max_finder/cycles_moore
/tb_min_max_finder/cycles_mealy
3'h0
3'h0
3'h0
3'hx
3'hx
3'hx
3'hx
32'dx
32'dx