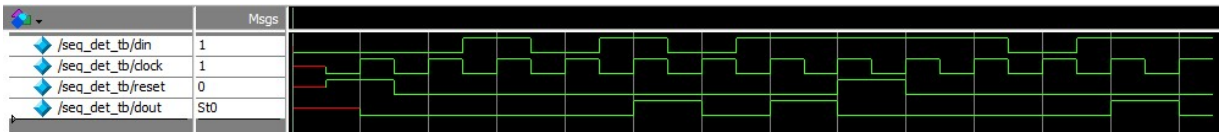
LAB 6 – Raja Aadhithan

Design – Sequence Detector:

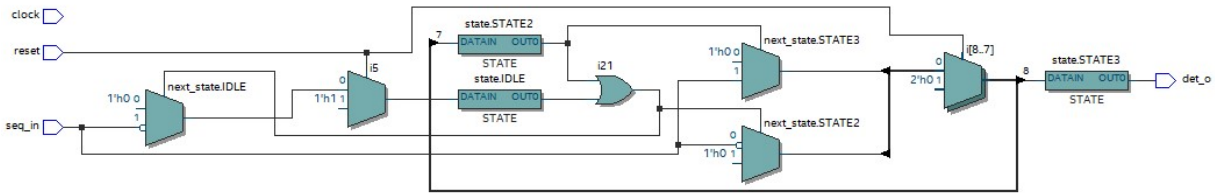
Wave:



Output:

```
VSIM 41> run -all
# Reset=x, state=xx, Din=0, Output Dout=x
# Reset=1, state=xx, Din=0, Output Dout=x
# Reset=1, state=00, Din=0, Output Dout=0
# Reset=0, state=00, Din=0, Output Dout=0
# Reset=0, state=00, Din=1, Output Dout=0
# Reset=0, state=01, Din=1, Output Dout=0
# Reset=0, state=01, Din=0, Output Dout=0
# Reset=0, state=10, Din=0, Output Dout=0
# Reset=0, state=10, Din=1, Output Dout=0
# Correct output at state 11
# Reset=0, state=11, Din=1, Output Dout=1
# Reset=0, state=11, Din=0, Output Dout=1
# Reset=0, state=10, Din=0, Output Dout=0
# Reset=0, state=10, Din=1, Output Dout=0
# Correct output at state 11
# Reset=0, state=11, Din=1, Output Dout=1
# Reset=1, state=00, Din=1, Output Dout=0
# Reset=0, state=01, Din=1, Output Dout=0
# Reset=0, state=01, Din=0, Output Dout=0
# Reset=0, state=10, Din=0, Output Dout=0
# Reset=0, state=10, Din=1, Output Dout=0
# Correct output at state 11
# Reset=0, state=11, Din=1, Output Dout=1
# Reset=0, state=01, Din=1, Output Dout=0
# ** Note: $finish    : C:/Users/Aadhithan/Documents/Ve
6/tb/seq_det_tb.v(117)
#    Time: 135 ps  Iteration: 0  Instance: /seq_det_tb
```

RTL:



Design : Vending machine:

Wave:

Output:

```
VSIM 45> run -all
# @time:  0,input (ij) is x,x and output (xy) is 0,0
# @time: 15,input (ij) is 0,1 and output (xy) is 0,0
# @time: 25,input (ij) is 0,0 and output (xy) is 0,0
# @time: 35,input (ij) is 1,1 and output (xy) is 0,0
# @time: 45,input (ij) is 1,0 and output (xy) is 0,0
# @time: 50,input (ij) is 1,0 and output (xy) is 1,0
# @time: 55,input (ij) is 0,1 and output (xy) is 1,0
# @time: 60,input (ij) is 0,1 and output (xy) is 0,0
# @time: 65,input (ij) is 1,1 and output (xy) is 0,0
# @time: 80,input (ij) is 1,1 and output (xy) is 1,1
# @time: 85,input (ij) is 1,0 and output (xy) is 1,1
# @time: 90,input (ij) is 1,0 and output (xy) is 0,0
# @time: 95,input (ij) is 1,1 and output (xy) is 0,0
# @time:105,input (ij) is 1,0 and output (xy) is 0,0
# @time:110,input (ij) is 1,0 and output (xy) is 1,0
# @time:115,input (ij) is 0,1 and output (xy) is 1,0
# @time:120,input (ij) is 0,1 and output (xy) is 0,0
# @time:125,input (ij) is 1,1 and output (xy) is 0,0
# @time:140,input (ij) is 1,1 and output (xy) is 1,1
# @time:145,input (ij) is 1,0 and output (xy) is 1,1
# @time:150,input (ij) is 1,0 and output (xy) is 0,0
# ** Note: $finish    : C:/Users/Aadhithan/Documents/Ve
#    Time: 155 ps  Iteration: 0  Instance: /coin_tb
# 1
```

RTL: