GF2 Software Second Interim Report

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Definition file 1:

DEVICE:
SWITCH SW1 = 0;
SWITCH SW2 = 0;
NAND G1 = 2;
NAND G2 = 2;
OR G3 = 2;

CONNECTION:
CON SW1 -> G1.I1;
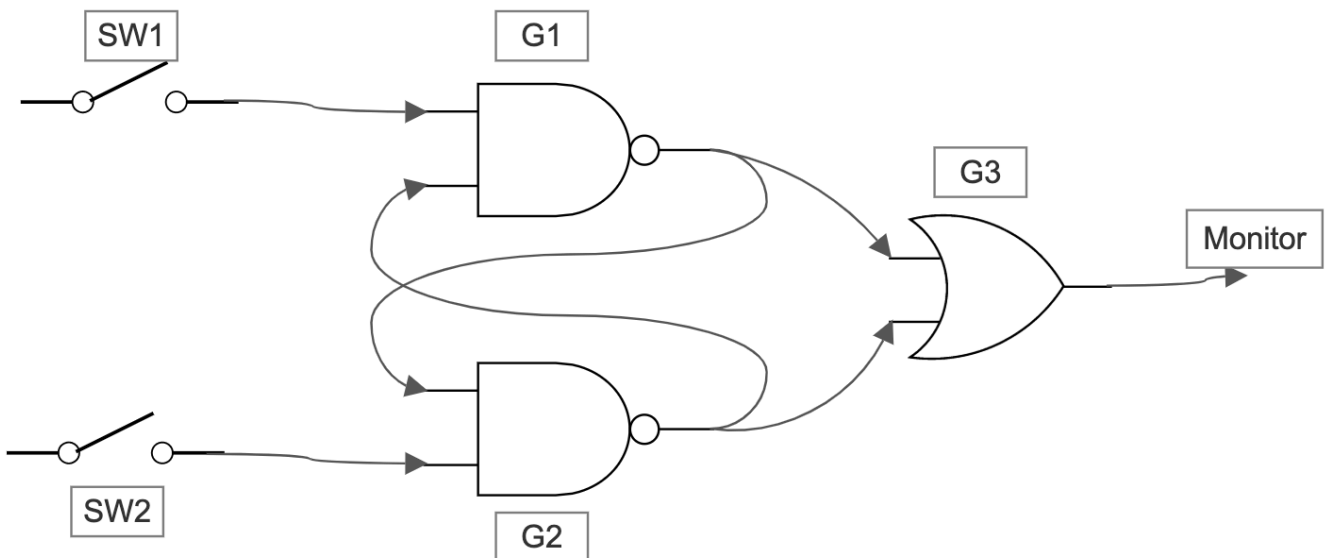*CON SW2 -> G2.I2;*
CON G1 -> G2.I1;
CON G2 -> G1.I2;
CON G1 -> G3.I1;
CON G2 -> G3.I2;

MONITOR:
MON G3;

Definition file 2:

DEVICE:
SWITCH SW1 = 1;
SWITCH SW2 = 1;
CLOCK CL1 = 3;
CLOCK CL2 = 4;
XOR G1;
NAND G2 = 2;
DTYPE G3;
AND G4 = 2;
NOR G5 = 2;

CONNECTION:
CON SW1 -> G1.I1;
CON SW2 -> G2.I2;
CON CL1 -> G1.I2;
CON CL1 -> G2.I1;
CON CL2 -> G3.CLK;
CON G1 -> G3.DATA;
CON SW1 -> G3.SET;
CON SW2 -> G3.CLEAR;
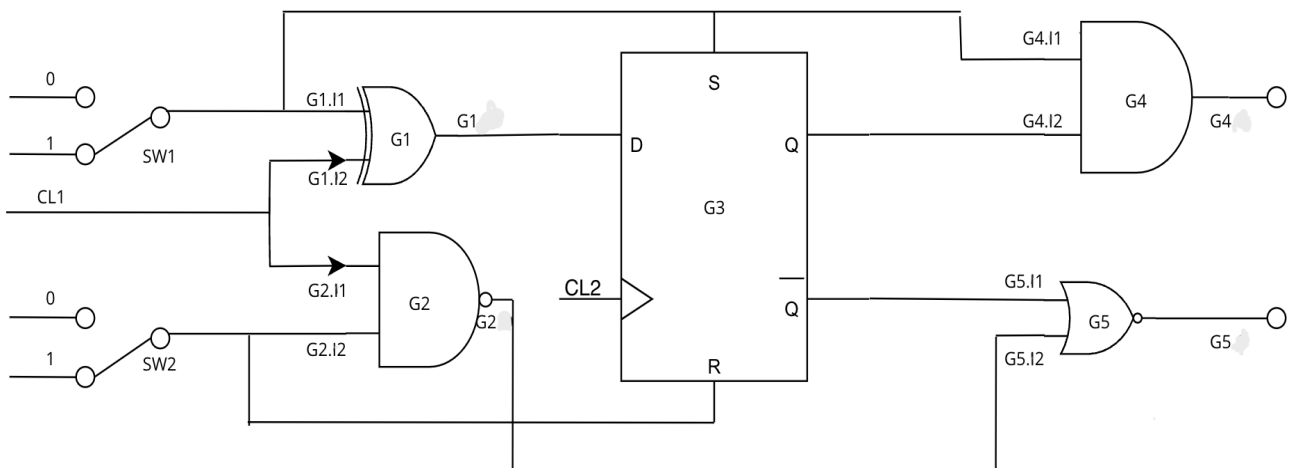CON G3.Q -> G4.I2;
CON G3.QBAR -> G5.I1;
CON SW1 -> G4.I1;
CON G2 -> G5.I2;

MONITOR:
MON G4;
MON G5;

User Guide

- The graphical interface of the logic simulation software after the user runs the programme (with definition file 1) is shown below. It comprises of three main sections:

① : The head tool bar, where user can set the view of the main output window [②] to default and input definition text files for logic circuit construction.

② : The main output window, where outputs of monitored signals are displayed. Users can zoom in or out of the window, and add or delete monitors from the tool sidebar [③]

③ : The tool sidebar, where user can perform a series of operations after inputting his own definition file.

Set view on ② to default

Input new definition files

User can set the number of cycles N to run or continue

Re-run the simulator for N cycles and display the waveforms at the current monitor points

Logic Simulator

Monitored Signal Display

②

③

G3

Cycles to Run

10

Run   Continue

Switch Input

SW1   ● 0 ○ 1

Signal Monitors

Add   Remove

SW1   G3

Help

Exit

Name of signal monitored

Output of signal monitored

User can modify the state of the switches defined in the circuit

Continue running the simulator (e.g. after changing a switch) for N cycles

User can add or remove the signals they wish to monitor by selecting the signal from the dropdown menu, which will be displayed on ② accordingly

List of available user commands will be prompted

Exit programme