

Logic Simulator

User Guide

To load graphical user interface (GUI), change directory into the folder *gf2_python* and run the *logsim.py* program using the command:

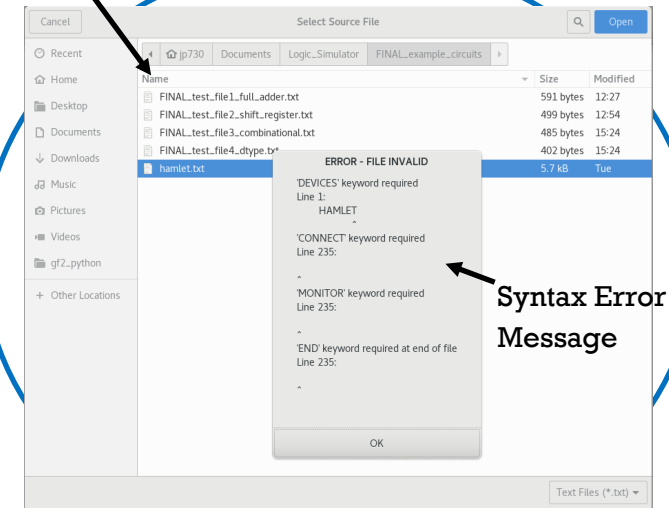
```
python logsim.py (def file location)
```

The location of a definition file is optional and the GUI will be preloaded with the file if the argument is given.

Performing Circuit Simulation:

- 1 If not preloaded, then click browse button and select your desired '.txt' definition file.
- 2 Add/Remove points in the circuit at which the trace will be recorded on the canvas by the simulator.
- 3 Select the desired initial state of the switches in the circuit (this will not appear if no switches exist)
- 4 Enter the number of cycles for which the circuit should be simulated and click the run button.
- 5 The trace for each monitoring point will be displayed on the canvas. Pressing the continue button will continue simulating each trace for the specified clock cycles (max 100 per run/continue).

File Selector Dialog



Syntax Error Message

LOGIC DEVICES SUPPORTED

- CLOCK
- SWITCH
- SIGGEN
- AND
- NAND
- OR
- NOR
- XOR
- DTYPE

Logic Simulator

File: FINAL_test_file1_full_adder.txt

Control number of cycles

1

2

3

4

5

Name of monitoring point and trace

N.B. Initial states of clocks and dtypes are randomised

Other features:

- Click the button "Switch to 2D traces" to see a 2D graph of your results.
- This software will inherit the local language on your device and supports English, French and Hindi.

Time axis

Cycles: 10

Run Continue Exit

Switch to 2D Traces Reset Position

Monitor Points

SELECT Add

Remove Remove Remove Remove Remove Remove

Switch Values:

switch1 Off

switch2 Off

switch3 On

Control Buttons and switch from 3D to 2D

Current Monitor Points and Scrollbar

Current Switch States

The screenshot shows the main interface of the Logic Simulator. It features a 3D visualization of the circuit simulation results, with multiple colored bars representing the state of different components over time. The x-axis represents time, ranging from 0 to 20. The y-axis represents the state of the components. The interface includes a file selector, a control panel with buttons for Run, Continue, and Exit, and a section for monitoring points and switch values. The current state of the switches is shown as Off for switch1 and switch2, and On for switch3.