Logic Simulator: User Guide

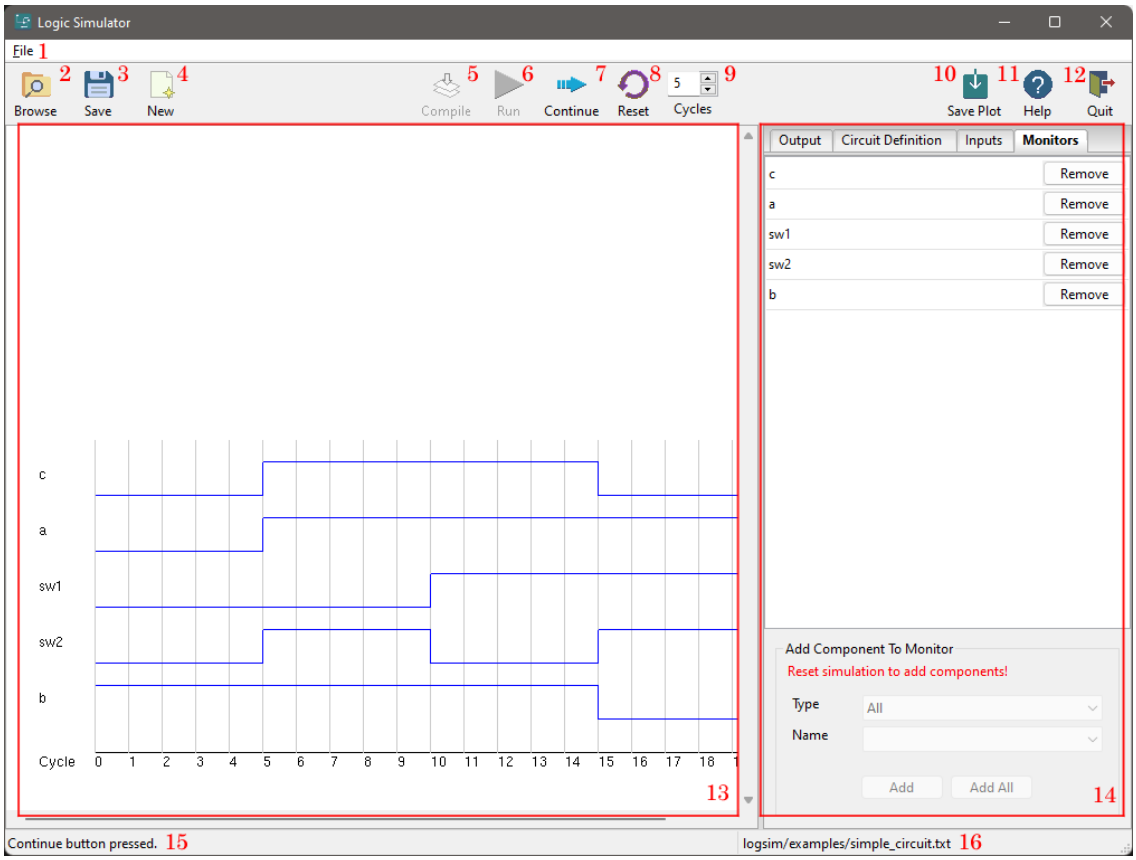

Figure 1: Screenshot of the GUI

Logic Simulator is a tool that allows the user to read in, edit and simulate a logic circuit defined in a user-provided circuit definition file[1]. Figure 1 shows a screenshot of the Graphical User Interface (GUI) labelled with the following features:

1. Menubar containing 3 options: *About*, *Save As* and *Quit*.
2. Opens a definition file
3. Saves the current definition file
4. Creates a new definition file
5. Compiles the edited definition file in the *Circuit Definition* tab for any errors and initialises the inputs and monitors
6. Runs the code for the specified number of simulation cycles from scratch.
7. Continues the simulation for the specified number of cycles.
8. Resets the simulation.
9. Allows the user to specify the number of simulation cycles.
10. Saves the plot as an image.
11. Displays the user guide.
12. Quits the application.
13. Signal trace plot.
14. Side panel containing four tabs:

    Output: Console log. Text commands can also be run here.

    Circuit Definition: Editable area for the loaded definition file.

    Inputs: List of input switches. Has buttons which allow the switch states to be toggled ON or OFF.

    Monitors: List of signals to be monitored. Allows components to be added or removed.
15. Statusbar.
16. Path name of the current definition file.

A command-line interface is also available by running `python logsim/logsim.py -c <pathname>`. Typing `h` will display a list of possible commands. Example definition files can be found in the `./logsim/examples` folder. For further information on how to install and run the Logic Simulator, please consult the `README.md`.

[1]Definition files follow the EBNF grammar defined in the first interim report.