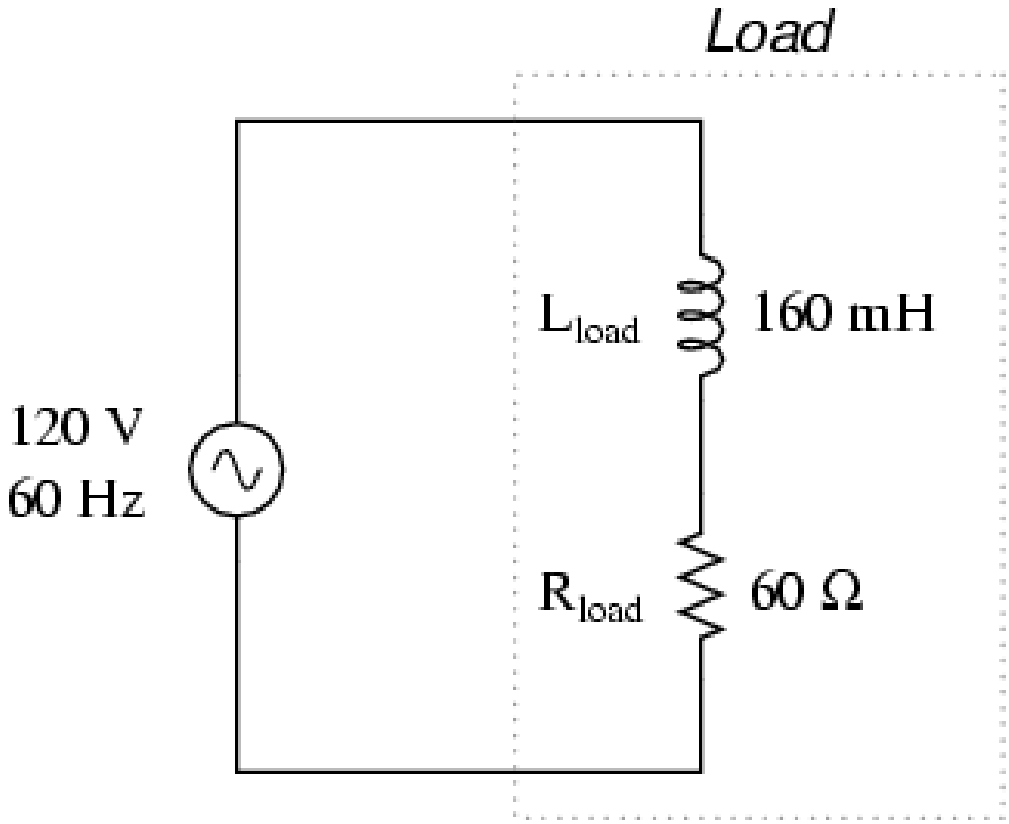
Software Specification Requirement Document

Assignment2-Circuit Solver



Author:
Tabish Shaikh(14)
Aakar Sharma(66)

An automated AC Circuit solver, in which the input is given in the standard SPICE NETLIST format.It draws the circuit based on the given input in its input file and the output is the visual representation of the circuit on a zoomable svg, and the results (currents and volatges) are stored in the output text file.If there is any error in the file, it will be specified in the terminal along with the line number in which the error is made.

To make the resulting SVG zoomable, we have used an external git repository "svgpan.js" and all the files which make output.svg zoomable are present in the thumbnailViewerfiles folder.
reference: https://github.com/ariutta/svg-pan-zoom

We have assumed the ground (Net of name '0') to be at zero potential, provided it is mentioned in the netlist. If it is not mentioned in the netlist, then we have assumed the first net given in the netlist to be at potential '0'.

1 Features:

1. The SVG image shown in the browser can be enlarged to larger magnifications without getting blurred.
2. A thumbnail is shown on the left bottom which help you to locate yourself in the image. Arrow buttons and reset buttons are also provided at the right bottom to Enlarge, diminish and reset the image.
3. Traversing across the image can be done by moving the mouse in the desired direction.

2 Required Software and libraries:

1. Flex-Needed for the lexical analysis of the input. Can be installed on linux by the command -
sudo apt-get install flex.
2. BISON- Needed to generate context free language of the parser.Can be installed on linux by the command -
sudo apt-get install bison
3. C++- Latest GNU complier
4. Browser-(Mozilla Firefox preffered)

3 Running the project:

3.1 How to give input:

- Write your contents in the top.cir
- Execute the code
- Type the command=make.

3.2 Run the project manually:

- ./a.out - to prepare the svg image file.
- Open Circuit.html in the browser to see the svg image generated.

4 Caution:

1. Some errors are faced using chrome to open the Circuit.html as chrome browser shows only one frame at a time.(prefer only mozilla)
2. If Mozilla Firefox failed to zoom the image, please reload the frame.
3. Please ensure that you have flash player extension enabled.