CSE project

sepehr javid

January 2018

1 Phase one

In this phase I decided to make the following functions to make things easier.

1.1 Line Check 1

This function checks the syntax of the first line of the text file. Since the syntax standard of the first line was different from others, I decided to consider an individual function to check it. I've used recursive method for the inputs and outputs inside the parenthesis. While checking the syntax inside the parenthesis, I chose to store their names in a dictionary as keys, in case the data is needed later.

1.2 Line Check

This function is used to check the syntax of the rest of the lines included in the text file. When a wire is being defined, this function will store the name of the wire in a dictionary as a key with blank value. When defining a wire, the explanation in front of it will be stored as the value in the dictionary but will not be checked. This function uses iterative method.

1.3 Dict Check

This one is used to check the syntax of the stored explanation in the dictionary.

1.4 Output

This function uses iterative method to omit comments and check the syntax of lines using the functions above.

1.5 File creator

File creator function uses the output function to check the result of line syntax and write it into a file. This function also uses the warning function to find warnings.

1.6 graph:

Graph function uses iterative method to define the graph and is used only if the syntax result of output function is ok.

2 phase two

2.1 All In One

The mentioned function uses recursive method to define each output using inputs. Since it uses recursive method I decided to set the recursion limit to 60 to be able to find the feedback error earlier.

2.2 Truth Table

This function uses the all in one function to have each output defined using all inputs and by replacing the inputs with their values and using the built-in function of python called "eval" it calculates the value and writes it into the file. Truth Table only works if all in one function hasn't found any feedback error.

2.3 module in module

This function is called when the cursor faces the word "module" while line check function is functioning. when called, it uses the output function to check the syntax of the inside module and then it returns and connects the elements of inside module to the outside one.

3 Phase three

3.1 Chart

Chart function uses turtle module and math module to draw the chart with delays of each gate considered. First, it asks for a file to have the values and then stores all those values into a dictionary. It also stores the times into a list and then the draw function is called to draw the chart. The draw chart will ask for the name of the node you want to track and at last you can have the chart all set.