

Parse_netlist function:

- Get list of lines without comment line and empty lines
- Validate whether i/p o/p gates are empty
- Validates whether gates have req inputs , gate name is defined
- Validates whether time is in increasing order , all i/p values are defined and stimulus value is either 0 or 1

Topo sort:

- The same function in netlist_to_dot function
- But return (gate_name, gate_type)

Simulate:

- Get the topo sorted order
- Signal stores the current logic value ('0' or '1') of every signal.
- Waves collects the time history of each input/output as strings like
- For each stimulus , update signal with the new input values
- Each gate reads its input from signals and stores output in signals
- Returns waves

NOTE:

- Topo sort algorithm which was there in the netlist to dot file is taken for reference
- To check different validations i referred with my friend
- To get some ideas for simulate function , i used chatgpt which gave some easy go ideas like using signals for current values