Requirements for Block Diagram tool

1. Four important columns are

Signal Name, Width, Direction, Source

2) Names of CSV files are module names

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Signal Name** | **Field** | **Width** | **Direction** | **Source** | **Active** |
| reset\_b |  | 1 | in | system | L |
| i\_clk |  | 1 | in | system |  |
| i\_irq |  | 1 | in | system | H |
| i\_firq |  | 1 | in | system | H |
| i\_system\_rdy |  | 1 | in | system | H |
| o\_jtag\_pc |  | 32 | out | a23\_execute |  |
| o\_wb\_adr |  | 32 | out | a23\_fetch |  |
| o\_wb\_sel |  | 4 | out | a23\_fetch |  |
| o\_wb\_we |  | 1 | out | a23\_fetch | H |
| i\_wb\_dat |  | 32 | in | system |  |
| o\_wb\_dat |  | 32 | out | a23\_fetch |  |
| o\_wb\_cyc |  | 1 | out | a23\_fetch | H |
| o\_wb\_stb |  | 1 | out | a23\_fetch | H |
| i\_wb\_ack |  | 1 | in | system | H |
| i\_wb\_err |  | 1 | in | system | H |
| o\_cpuwait |  | 1 | out | a23\_fetch | H |

The Source of first signal in Signal Name column provides hint for parent module. Now following conditions arise

1. If Source is module name does not match with any CSV filename, then it is a top level module.
2. The source of first signal in every module gives its parent module
3. If there are more than two top level module, then there is error in CSV files
4. The user has following options
5. List all CSV files that he wants to use for block diagram
6. Create dot file for each CSV file
7. Select the level to which block diagram is to be prepared
8. Select the top for which block diagram is to be prepared
9. Select whether a detailed or abstract block diagram is required

Solution-

The program should first find hierarchy from all the CSV files.

The program should create instances of input and out port objects for each CSV files

The program then should draw arrows to the block from a block whose name is source of the signal.