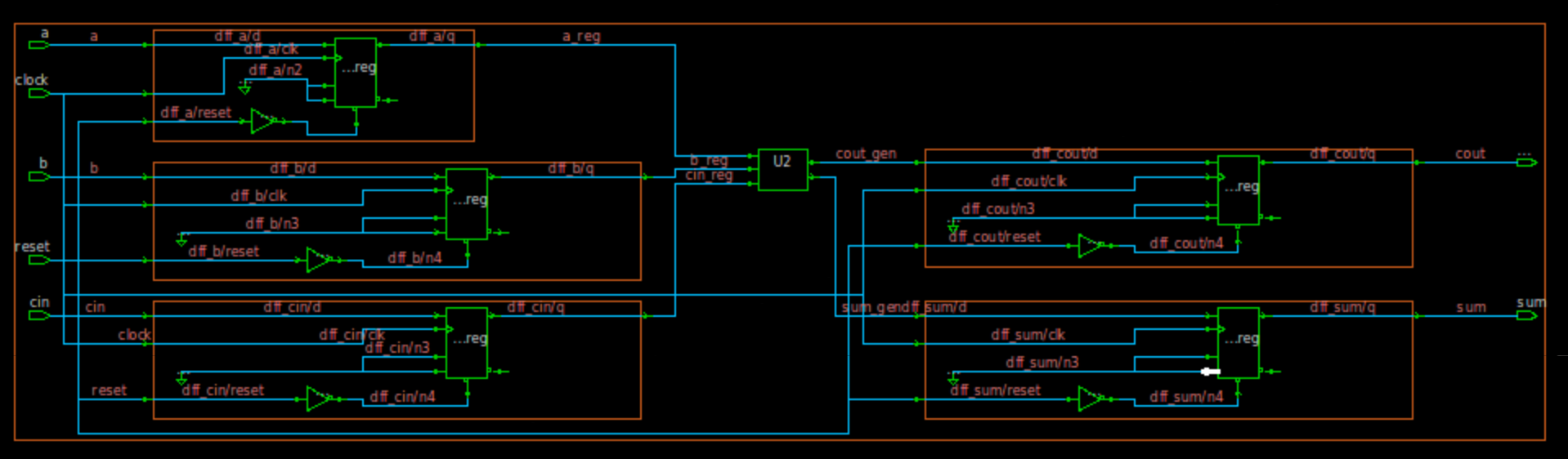
**HW\_LAB\_1\_A:**

Schematic view for simple\_adder.

Graphical user interface

Description automatically generated



**Timing report:**

Text

Description automatically generated

A picture containing graphical user interface

Description automatically generated

**HW\_LAB\_1\_B:**

Schematic view

Diagram

Description automatically generated

**Report timing:**

Text

Description automatically generated

**Comparison Table**

|  |  |  |
| --- | --- | --- |
| **Constraints** | **DC** | **Genus** |
|  |  |  |
| Cell Count | 11 | 7 |
| Combinational Cell Count | 6 | 2 |
| Sequential Cell Count | 5 | 5 |
| Cell Area | 56.92826 | 41.68 |
| WNS | 0 | 0 |
| TNS | 0 | 0 |
| Violation count | 0 | 0 |

**HW\_LAB\_1\_C:**

**FE RTL Waveform**

Graphical user interface, application

Description automatically generated

In detail RTL Waveform for comparison,

A screenshot of a computer

Description automatically generated

**BE Netlist Waveform**

Graphical user interface, application

Description automatically generated

In Detail Waveform for the same

A screenshot of a computer

Description automatically generated

**Comparison statement between FE RTL vs BE Netlist**

Waveforms are same for both Front end and Back end hence the RTL and generated netlist has same functionality.

**Questa Commands**

**vlib:** creates a design library

**vmap:** Defines the mapping between a logical library name and a directory

**vlog:** Compiles all the Verilog files

**vsim:** Starts the VHDL/Questa simulator

**HW\_LAB\_1\_D:**

LEC equivalency.

Table

Description automatically generated with medium confidence

**Commands used in LEC:**

|  |  |
| --- | --- |
| **Commands** | **Description** |
| Lec -dofile | Lec tool is invoked and commands in dofile is executed |
| Lec -tclmode | Lec tool is invoked in tclmode |

|  |  |
| --- | --- |
| **Commands** | **Description** |
| Read\_design | Reads the RTL or netlist or library files required for the lec run |
| Set\_system\_mode | To switch system modes |
| Add\_compared\_points | To specify which mapped points conformal compares. |
| compare | Compare the points added in the list and tells whether he key points are equivalent or not. |

**HW\_LAB\_1\_E:**

<https://github.com/adithyakashyap95/lab1-adit5>