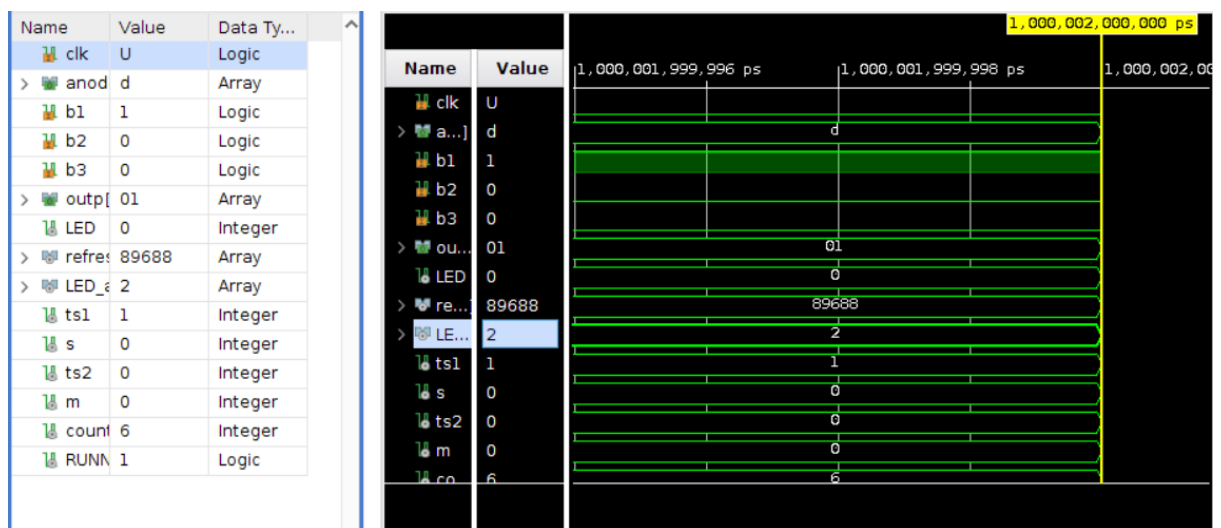
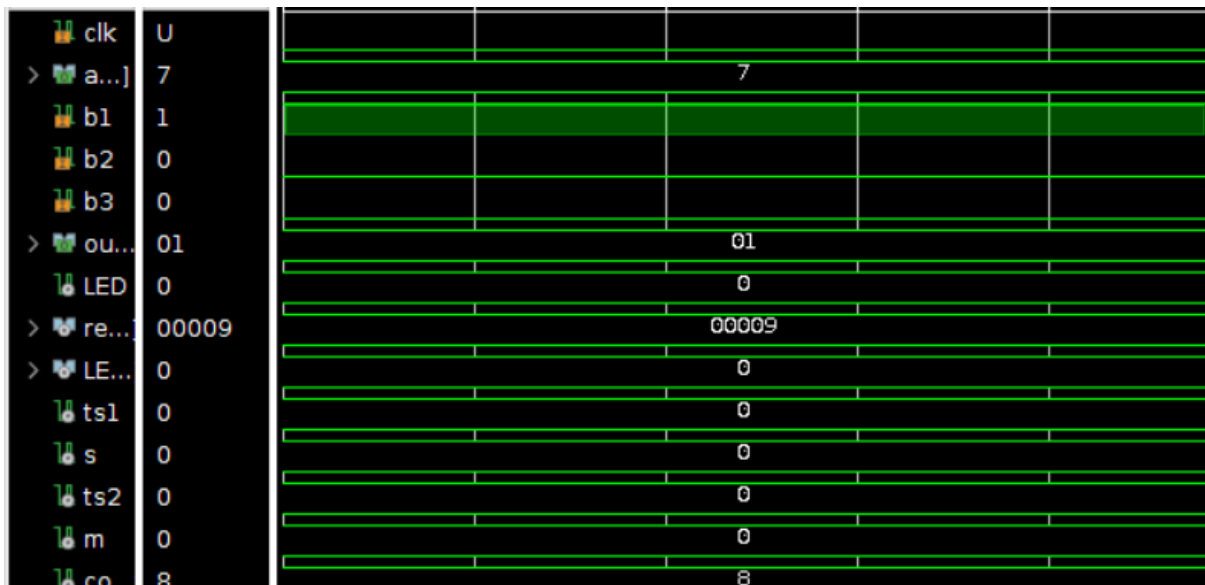


ASSIGNMENT 6:

Roshan Raj(2019CS50437) Anannya Mathur(2019TT10953)

We reduced the 100Mhz on-board clock to 10 Hz. We used three modulo-10 counters and one modulo-6 counter. The rate of individual anode activation was kept at around 300-400Hz.

Simulation Results:



Constraints file(.xdc)-

```
## Clock signal
set_property PACKAGE_PIN W5 [get_ports clk]
set_property IOSTANDARD LVCMOS33 [get_ports clk]
```

```

##7 segment display
set_property PACKAGE_PIN W7 [get_ports {outp[6]}]
set_property IOSTANDARD LVCMOS33 [get_ports {outp[6]}]
set_property PACKAGE_PIN W6 [get_ports {outp[5]}]
set_property IOSTANDARD LVCMOS33 [get_ports {outp[5]}]
set_property PACKAGE_PIN U8 [get_ports {outp[4]}]
set_property IOSTANDARD LVCMOS33 [get_ports {outp[4]}]
set_property PACKAGE_PIN V8 [get_ports {outp[3]}]
set_property IOSTANDARD LVCMOS33 [get_ports {outp[3]}]
set_property PACKAGE_PIN U5 [get_ports {outp[2]}]
set_property IOSTANDARD LVCMOS33 [get_ports {outp[2]}]
set_property PACKAGE_PIN V5 [get_ports {outp[1]}]
set_property IOSTANDARD LVCMOS33 [get_ports {outp[1]}]
set_property PACKAGE_PIN U7 [get_ports {outp[0]}]
set_property IOSTANDARD LVCMOS33 [get_ports {outp[0]}]

set_property PACKAGE_PIN U2 [get_ports {anode[0]}]
set_property IOSTANDARD LVCMOS33 [get_ports {anode[0]}]
set_property PACKAGE_PIN U4 [get_ports {anode[1]}]
set_property IOSTANDARD LVCMOS33 [get_ports {anode[1]}]
set_property PACKAGE_PIN V4 [get_ports {anode[2]}]
set_property IOSTANDARD LVCMOS33 [get_ports {anode[2]}]
set_property PACKAGE_PIN W4 [get_ports {anode[3]}]
set_property IOSTANDARD LVCMOS33 [get_ports {anode[3]}]

set_property PACKAGE_PIN W19 [get_ports b1]
set_property IOSTANDARD LVCMOS33 [get_ports b1]
set_property PACKAGE_PIN T17 [get_ports b2]
set_property IOSTANDARD LVCMOS33 [get_ports b2]
set_property PACKAGE_PIN U17 [get_ports b3]
set_property IOSTANDARD LVCMOS33 [get_ports b3]

set_property CLOCK_DEDICATED_ROUTE FALSE(get_nets b1_IBUF)
set_property CLOCK_DEDICATED_ROUTE FALSE(get_nets b2_IBUF)
set_property CLOCK_DEDICATED_ROUTE FALSE(get_nets b3_IBUF)

```

Resource count-

LUT-32

Flip Flops-61

BRAMs-0

URAM-0

DSP-0

