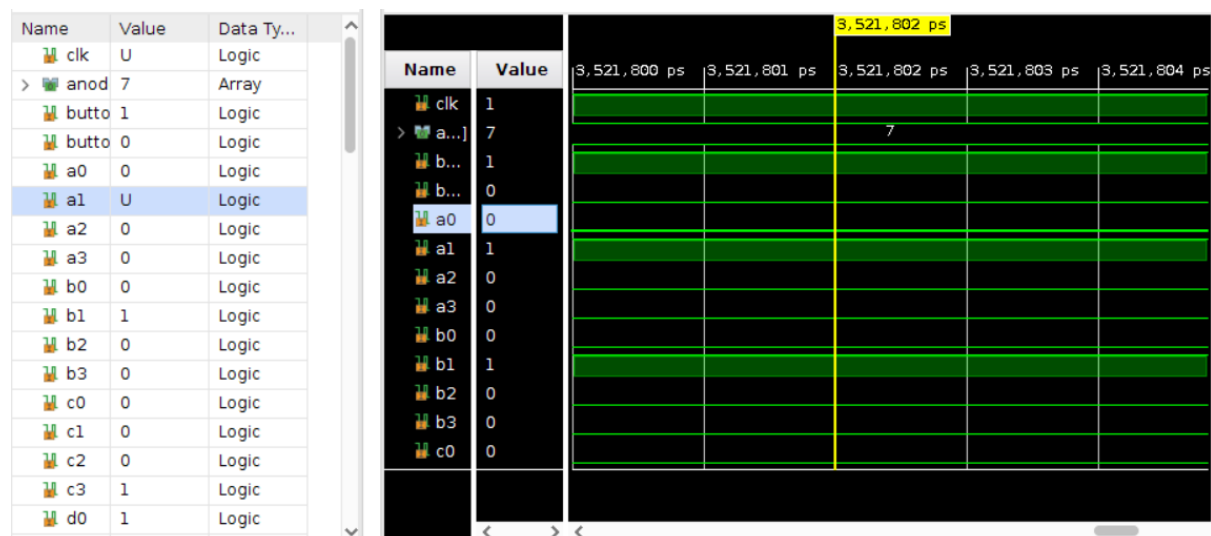
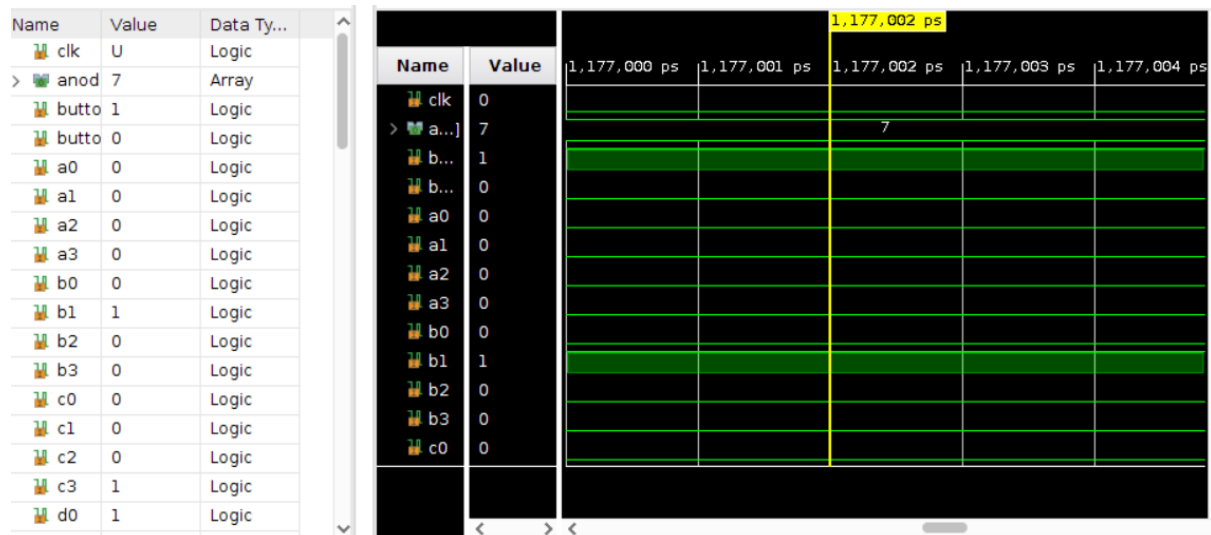


## ASSIGNMENT 5:

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

We rotated the digits every second and used a tracker to rotate the brightness of every digit along.

### Simulation Results-



### Constraints file(.xdc)-

```
## Clock signal
set_property PACKAGE_PIN W5 [get_ports Clk]
set_property IOSTANDARD LVCMOS33 [get_ports Clk]
create_clock -add -name sys_clk_pin -period 10.00 -waveform {0 5} [get_ports Clk]
```

a0, a1, a2, a3, b0, b1, b2, b3, c0, c1, c2, c3, d0, d1, d2, d3- 4 digits of 4 bits as input-

```

## Switches
set_property PACKAGE_PIN V17 [get_ports {a3}]
    set_property IOSTANDARD LVCMOS33 [get_ports {a3}]
set_property PACKAGE_PIN V16 [get_ports {a2}]
    set_property IOSTANDARD LVCMOS33 [get_ports {a2}]
set_property PACKAGE_PIN W16 [get_ports {a1}]
    set_property IOSTANDARD LVCMOS33 [get_ports {a1}]
set_property PACKAGE_PIN W17 [get_ports {a0}]
    set_property IOSTANDARD LVCMOS33 [get_ports {a0}]
set_property PACKAGE_PIN W15 [get_ports {b3}]
    set_property IOSTANDARD LVCMOS33 [get_ports {b3}]
set_property PACKAGE_PIN V15 [get_ports {b2}]
    set_property IOSTANDARD LVCMOS33 [get_ports {b2}]
set_property PACKAGE_PIN W14 [get_ports {b1}]
    set_property IOSTANDARD LVCMOS33 [get_ports {b1}]
set_property PACKAGE_PIN W13 [get_ports {b0}]
    set_property IOSTANDARD LVCMOS33 [get_ports {b0}]
set_property PACKAGE_PIN V2 [get_ports {c3}]
    set_property IOSTANDARD LVCMOS33 [get_ports {c3}]
set_property PACKAGE_PIN T3 [get_ports {c2}]
    set_property IOSTANDARD LVCMOS33 [get_ports {c2}]
set_property PACKAGE_PIN T2 [get_ports {c1}]
    set_property IOSTANDARD LVCMOS33 [get_ports {c1}]
set_property PACKAGE_PIN R3 [get_ports {c0}]
    set_property IOSTANDARD LVCMOS33 [get_ports {c0}]
set_property PACKAGE_PIN W2 [get_ports {d3}]
    set_property IOSTANDARD LVCMOS33 [get_ports {d3}]
set_property PACKAGE_PIN U1 [get_ports {d2}]
    set_property IOSTANDARD LVCMOS33 [get_ports {d2}]

set_property PACKAGE_PIN T1 [get_ports {d1}]
    set_property IOSTANDARD LVCMOS33 [get_ports {d1}]
set_property PACKAGE_PIN R2 [get_ports {d0}]
    set_property IOSTANDARD LVCMOS33 [get_ports {d0}]

```

```

##7 segment display
set_property PACKAGE_PIN W7 [get_ports {A}]
    set_property IOSTANDARD LVCMOS33 [get_ports {A}]
set_property PACKAGE_PIN W6 [get_ports {B}]
    set_property IOSTANDARD LVCMOS33 [get_ports {B}]
set_property PACKAGE_PIN U8 [get_ports {C}]
    set_property IOSTANDARD LVCMOS33 [get_ports {C}]
set_property PACKAGE_PIN V8 [get_ports {D}]
    set_property IOSTANDARD LVCMOS33 [get_ports {D}]
set_property PACKAGE_PIN U5 [get_ports {E}]
    set_property IOSTANDARD LVCMOS33 [get_ports {E}]
set_property PACKAGE_PIN V5 [get_ports {F}]
    set_property IOSTANDARD LVCMOS33 [get_ports {F}]
set_property PACKAGE_PIN U7 [get_ports {G}]
    set_property IOSTANDARD LVCMOS33 [get_ports {G}]

set_property PACKAGE_PIN V7 [get_ports dp]
    set_property IOSTANDARD LVCMOS33 [get_ports dp]

set_property PACKAGE_PIN U2 [get_ports {Anode0}]
    set_property IOSTANDARD LVCMOS33 [get_ports {Anode0}]
set_property PACKAGE_PIN U4 [get_ports {Anode1}]
    set_property IOSTANDARD LVCMOS33 [get_ports {Anode1}]
set_property PACKAGE_PIN V4 [get_ports {Anode2}]
    set_property IOSTANDARD LVCMOS33 [get_ports {Anode2}]
set_property PACKAGE_PIN W4 [get_ports {Anode3}]
    set_property IOSTANDARD LVCMOS33 [get_ports {Anode3}]

##Buttons
set_property PACKAGE_PIN U18 [get_ports button1]
    set_property IOSTANDARD LVCMOS33 [get_ports button1]
set_property PACKAGE_PIN T18 [get_ports button2]
    set_property IOSTANDARD LVCMOS33 [get_ports button2]

```

Resource count-

LUT-47  
 Flip Flops-76  
 BRAMs-0  
 URAM-0  
 DSP-0

