Assignment 5

By Dhananjay Sapawat (2019CS10345)
Bhukya Sai Ram Naik (2019CS10340)

This assignment is built over Assignment 4.

Design

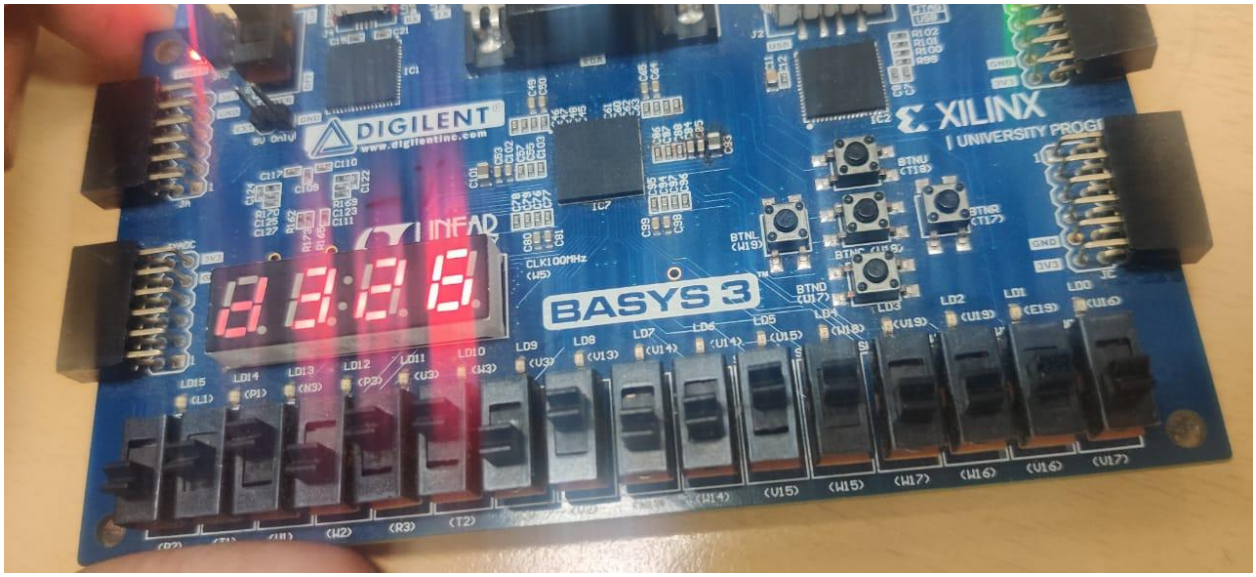
For rotation of LEDs we will change the value of the anode at some interval.
For changing the brightness and value of LEDs we will add 2 buttons and 4 local integer variables in the VHDL code.

CIRCUIT

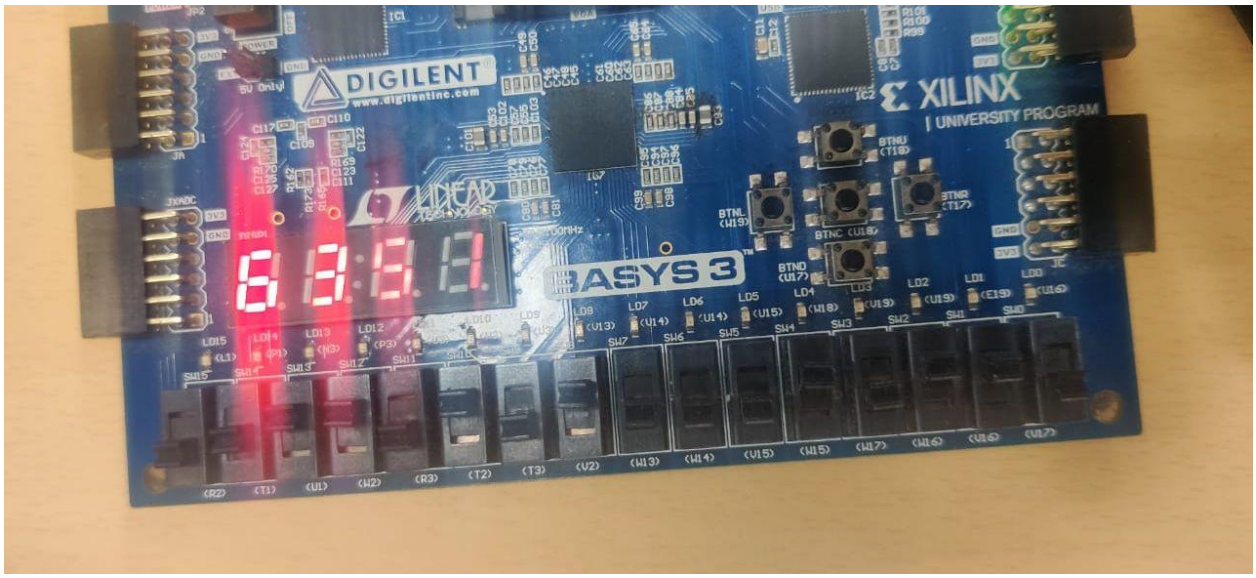
In the circuit to change the value of LEDs we will first set a value on switches and then we press a leftmost button and the values will change.
To change the brightness we will first set a value on switches and then we press the rightmost button and the brightness will change.
There are two switches and four brightness Levels for each LED.

Photo of FPGAS

For Input = d326 with different brightness



For Input = 6351 with different brightness



1. Memory

Site Type	Used	Fixed	Available	Util%
Block Ram Title	0	0	50	0.00
RAMB36/FIFO*	0	0	50	0.00
RAMB18	0	0	100	0.00

2. DSP

Site Type	Used	Fixed	Available	Util%
DSPs	0	0	90	0.00

3. Primitives

Ref Name	Used	Functional Category
LUT2	277	LUT
LUT1	130	LUT
FDRE	117	Flop & Latch
CARRY4	80	Carrylogic
IBUF	19	IO
OBUF	11	IO
LUT4	29	LUT
LUT6	20	LUT
LUT3	28	LUT
BUFG	1	Clock