DAILY ASSESSMENT FORMAT

Date:	28-05-2020	Name:	YAMUNASHREE N
Course:	Logic Design	USN:	4AL17EC097
Topic:	Boolean equationsfor digital circuit. Combinational circuits:conversion of MUX and decoders to logic gates. Design 7 segment decoder with common anode display.	Semester & Section:	6th B sec
Github Repository:	yamunashree-courses		

FORENOON SESSION DETAILS
Image of session

BCD to 7-segment decoder
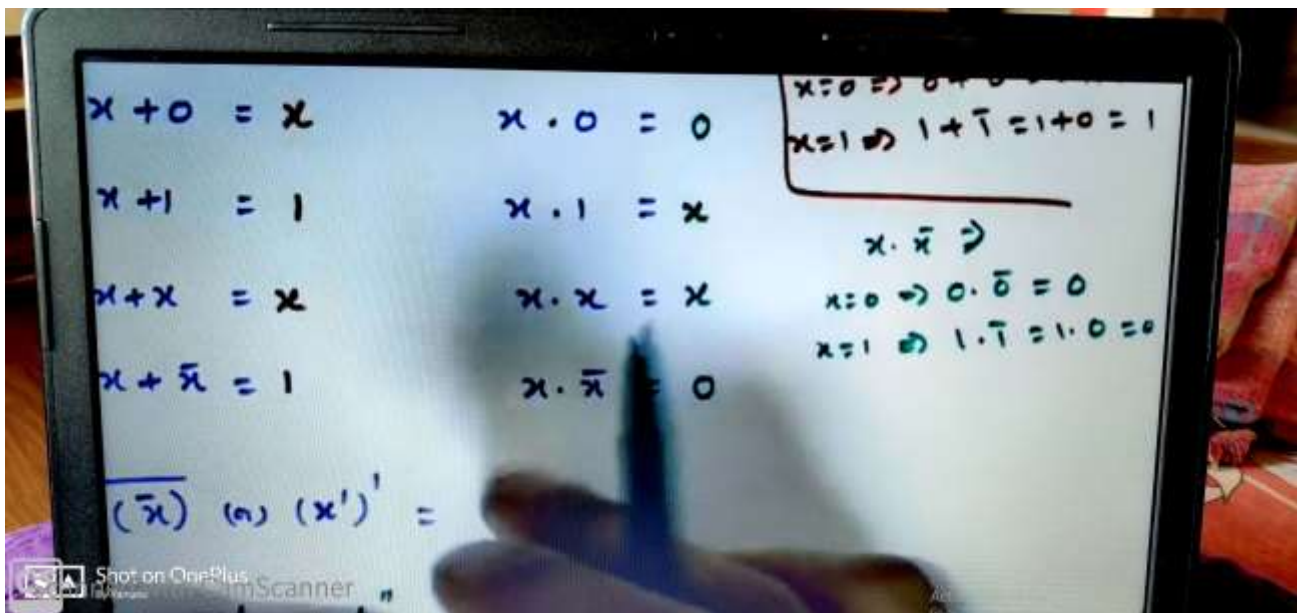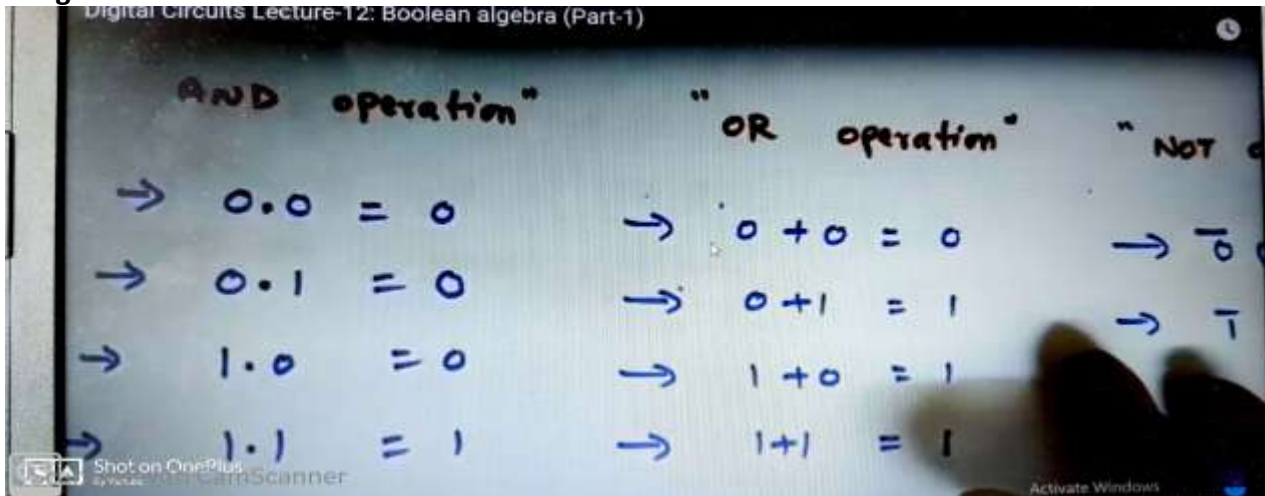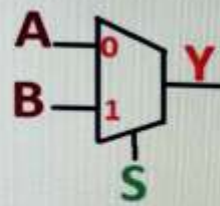
SELECTION (S)	OUTPUT(Y)
0	A
1	B

$$2^n - 1$$

$2^n =$ inputs

$n =$ selection lines

$$Y = A\bar{S} + BS$$
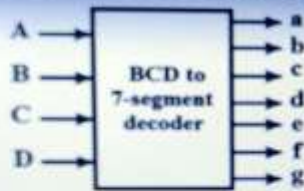
A	B	C	D	a	b	c	d	e	f	g
0	0	0	0	1	1	1	1	1	1	0
0	0	0	1	0	1	1	0	0	0	0
0	0	1	0	1	1	0	1	1	0	1
0	0	1	1	1	1	1	1	0	0	1
0	1	0	0	0	1	1	0	0	1	1
0	1	0	1	1	0	1	1	0	1	1
0	1	1	0	1	0	1	1	1	1	1
0	1	1	1	1	1	1	0	0	0	0
1	0	0	0	1	1	1	1	1	1	1
1	0	0	1	1	1	1	0	0	1	1

Logic Design

Boolean equations for digital circuits:

→ Cost of the circuit

→ Simple realization of a circuit

→ Boolean algebra is a system of mathematical

→ It is defined with set of elements, a set of operators, and a number of axioms or postulates

→ set of elements (0,1)

→ binary operators – or & AND

→ unary " – NOT

Axioms & Laws of Boolean Algebra:

Difference between boolean algebra, ordinary algebra and binary number system

Boolean Algebra :-

$A + A = A$ $A \cdot A = A$

$1 + 1 = 1$ $1 \cdot 1 = 1$

Ordinary Algebra

$A + A = 2A$ $A \cdot A = A^2$

$1 + 1 = 2$ $1 \cdot 1 = 1$

Binary number system

$1 + 1 = (10)$ $1 \cdot 1 = 1$

Axioms and Postulates :-

→ $(x')' = x$

Identity Element :-

or operation   AND operation

additive identity = 0

multiplicative = 1

Laws of Boolean Algebra:-

1) Commutative Law:- $x + y = y + x$ | $x \cdot y = y \cdot x$

$A + B = B + A$ | $A \cdot B = B \cdot A$

MUX to logic gates :

NAND, NOR → universal gates

MUX and Decoders are called "Universal logic"
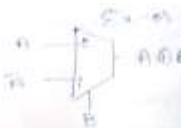
Inverter Design
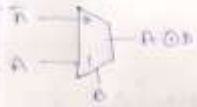
$Y = 1 \cdot \bar{A} + 0 \cdot A$

$Y = \bar{A}$

$Y = A\bar{S} + BS$

AND gate

$Y = 0 \cdot \bar{B} + A \cdot B$

$Y = A B$

OR gate

$A + B$

$Ex - or$

$A \oplus B$

$Ex - NOR$

$A \odot B$

BCD to 7 segment decoder

$a = C + A + B\bar{D} + BD$

$b = \bar{B} + CD + \bar{C}\bar{D}$

$c = B + \bar{C} + D$

$d = A + B\bar{D} + C\bar{D} + \bar{B}C + B\bar{C}D$

$e = B\bar{D} + C\bar{D}$

$f = A + \bar{C}\bar{D} + B\bar{D} + B\bar{C}$

$g = A + B\bar{C} + \bar{B}C + C\bar{D}$

Date:	28-05-2020	Name:	YAMUNASHREE N
Course:	Python Programming	USN:	4AL17EC097
Topic:	Application 5: Build a desktop database application.	Semester & Section:	6th sem B sec

AFTERNOON SESSION DETAILS
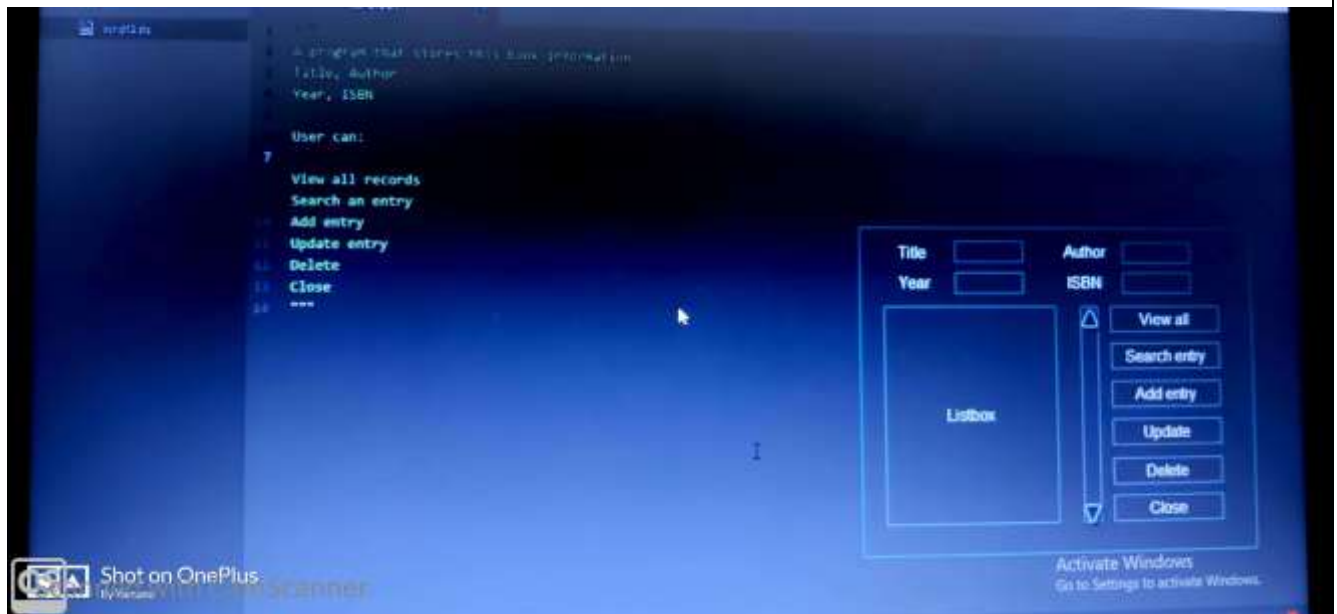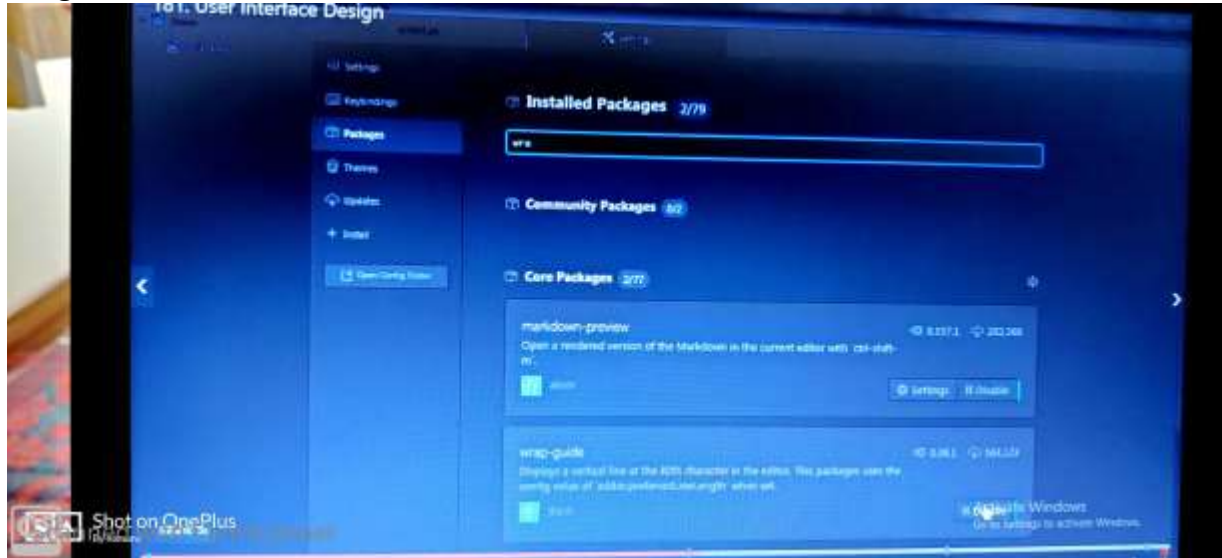
Image of session

```
    from tkinter import *

    def view_command():
        list1.de|

          defs        New Method
          def         New Function

    window=Tk()

    l1=Label(window,text="Title")
    l1.grid(row=0,column=0)

    l2=Label(window,text="Author")
    l2.grid(row=0,column=2)

    l3=Label(window,text="Year")
```

```
Traceback (most recent call last):
  File "C:\Users\Marius.Grete-PC\AppData\Local\Programs\Python\Python35-32\lib\tkinter\__init__.py", line 1549, in __call__
    return self.func(*args)
  File "frontend.py", line 5, in view_command
    for row in backend.view():
NameError: name 'backend' is not defined
PS D:\pp\d_tkinter_sqlite3\Demo> python frontend.py
[(1, 'The sea', 'John Tablet', 1918, 913123132), (2, 'The sea', 'John Tablet', 1918, 913123132), (4, "Th\Lebinile\Allnclose
9)]
```

Fixing the Bug (Practice)

Exercise

If you haven't already noticed, the program has a bug. When the listbox is empty and the user clicks the listbox, an *IndexError* is generated in the terminal:

```
Ardito-MBP:app6-tkinter-sqlite mta6 python3 frontend.py
Exception in Tkinter callback
Traceback (most recent call last):
  File "/Library/Frameworks/Python.framework/Versions/3.6/lib/python3.6/tkinter/
__init__.py", line 1699, in __call__
    return self.func(*args)
  File "frontend.py", line 6, in get_selected_row
    index=list1.curselection()[0]
IndexError: tuple index out of range
```

Why does this error happen?

Application 5 : **Build a Desktop Database** Day

Application :

A program that stores this book information:
Title : Author
Year. ISBN

user can:

view all records
search an entry
Add entry
• update entry
Delete
  Close

import sqlite3

def connect():
    conn = sqlite3. connect("books.db")
    cur = conn.cursor()
    cur.executes(" Create Table If Not exist book
                (id Integer Primary key, title text, auth
                Text, year integer, isbn integer)")
    conn.commit()
    conn.close()

def insert (title, author, year, isbn):
    conn = sqlite3.connect("books.db")
    cur = conn.cursor()
    cur.execute(" Insert into book values (Null, "
                (title, author, year, isbn))

conn.commit()
conn.close()

def view():
    conn = sqlite3.connect("books.db")
    cur = conn.cursor()
    cur.execute("select *FROM book")
    rows = cur.fetchall()
    conn.close()
    return rows

Solution:-

def get_selected_row (event):
    try:
        global selected_tuple
        index = list1.curselection()[0]
        selected_tuple = list1.get(index)
        e1.delete(0, END)
        e1.insert (END, selected_tuple[1])
        e2.delete(0, END)
        e2.insert(END, selected_tuple[2])
        e3.delete(0, END)
        e3.insert(END, selected_tuple[3])
        e4.delete(0, END)
        e4.insert(END, selected_tuple[4])
    except Index Error:
        pass