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4AL16ECO46
6B - 28/05/2020

Cource → Logic design
Topic ÷ Boolean algebra

* EX-NOR gate
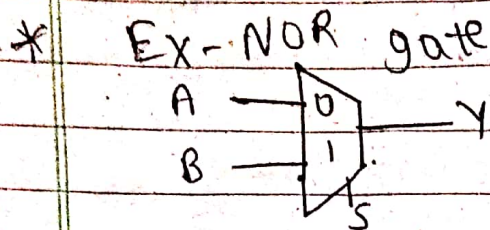
selection (S)	o/p
0	A
1	B

$2^n - 1$ $2^n = i/p$,   n = selection lines

BCD to 7 -segment decoder
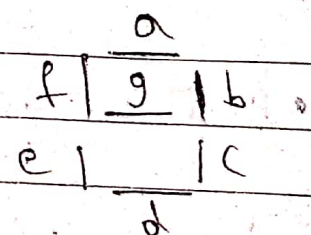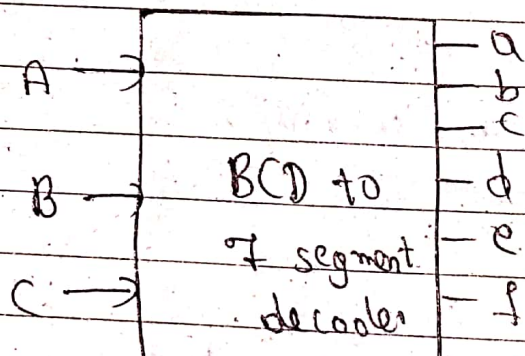
1) Boolean equations for digital ckt.
2) Combinational ckt.
   • Conversion of Mux
   • Decoder to logic gates.

logic gates
→ 0 or 1
→ Cost of the ckt & simple realization of a current.

→ Boolean algebra-

$$A + A = A \qquad A \cdot A = A$$
$$1 + 1 = 1 \qquad 1 \cdot 1 = 1$$

→
$$x + 0 = x \qquad x \cdot 0 = 0$$
$$x + 1 = 1 \qquad x \cdot 1 = x$$
$$x + x = x \qquad x \cdot x = x$$
$$x + \bar{x} = 1 \qquad x \cdot \bar{x} = 0$$
$$(\bar{\bar{x}}) \text{ or } (x')' = x$$

Identity element
The additive identity = '0'
The multiplicative identity = '1'

Theorems boolean algebra.

* Python programming   Poojary Sushmita
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Application 5: build a desktop database application.

Applications :- Build a desktop database applica

* from tkinter import
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")
l3 - grid (row=1. column=0)

l4 = label (window, text = "ISBN")
l4. grid (row=1, column=2)

title_text = string var()
e1 = entry (window, text.variable = title
e1 - grid (row=0, column=1)

author_text = stringvar()
e2 = entry (window, textvariable = author_text)
e2. grid (row=0, colum=3)

```python
year_text = StringVar()
e3 = entry (window , text variable = year_text)
e3 . grid (row = 1, column = 1)

isbn_text = String Var()
e4 = entry (window, text variable = isbn_text)
e4 . grid (row = 1, colum = 3)

list 1 = listbox (window , height = 6, width = 35)
list 1. grid (row = 2, column = 0, rowspan = 6,
             columnspan = 2)

sb1 = scrollbar (window)
sb1. grid (row 2, column = 2, rowspan = 6)

list 1. configure (yscrollcommand = sb1.set)
sb1. configure (command = list 1. yview)

b1 = Button (window, text = "view all", width = 12)
b1, grid (row 2, coloumn = 3)

b2 = Button (window, text = "search entry", width = 12)
b2. grid (row 3, column = 3

b3 = Button (window, text = "Add entry", width = 12)
b3. grid (row = 4, column = 3)

b4 = Button (window, text = "Delete selected", width = 1
b4 - grid (row = 5, coloumn = 3)
window. mainloop()
```