DAILY ASSESSMENT FORMAT

Date:	2 June 2020	Name:	Karegowda kn
Course:	LOGIC DESIGN	USN:	4al16ec029
Topic:	• Boolean equations for digital circuits. • Combinational circuits: Conversion of MUX and Decoders to logic gates. • design of 7 segment decoder with common anode display	Semester & Section:	6th sem & B sec
Github Repository:	Karegowda-courses		

FORENOON SESSION DETAILS
Report –

Boolean equations for digital circuits :

- The variables used in this algebra are also called as Boolean variables.

Digital Circuits - Boolean algebra. Boolean algebra is an algebra, which deals with binary numbers & binary variables. Hence, it is also called as Binary Algebra or logical Algebra.

$x + 0 = x$ $x + 1 = 1$ $x + x = x$ $x + x' = 1$

$x.1 = x$ $x.0 = 0$

$x.x = x$ $x.x' = 0$

Combinational circuits: Conversion of MUX and Decoders to logic gates:

• A combination circuit is one that has a "combination" of series and parallel paths for the electricity to flow. Its properties are a combination of the two. In this example, the parallel section of the circuit is like a sub-circuit and actually is part of an over-all series circuit.

Commutative law:

$x+y = y+x$

$a+b = b+a$

Associative law:

$x+(y+z) = (x+y)+z$

$a+(b+c) = (a+b)+c$

Distributive law:

$x(y+z) = xy+xz$

$a(b+c) = ab+BC$

• In computing and electronic systems, binary-coded decimal (BCD) is a class of binary encodings of decimal numbers where each digit is represented by a fixed number of bits, usually four or eight. Sometimes, special bit patterns are used for a sign or other indications (e.g. error or overflow).

• Binary Coded Decimal (BCD or “8421” BCD) numbers are made up using just 4 data bits (a nibble or half a byte) similar to the Hexadecimal numbers we saw in the binary tutorial, but unlike hexadecimal numbers that range in full from 0 through to F, BCD numbers only range from 0 to 9, with the binary number patterns of 1010 through to 1111 (A to F) being invalid inputs for this type of display and so are not used as shown below.

Mux to logic gates

1.NAND,NOR- Universal gates

2."Universal logic"

3.MUX and decoders are called universal logic

4.now we will see haw a 2:1 MUX can be used to create different logic gates.

Design of 7 segment decoder with common anode display:

- The use of packed BCD allows two BCD digits to be stored within a single byte (8-bits) of data, allowing a single data byte to hold a BCD number in the range of 00 to 99. An example of the 4-bit BCD input (0100) representing the number “4” is given below

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Course:	python	USN:	4al16ec029
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AFTERNOON SESSION DETAILS

Report –

1.builtin modules

```
import time
while True:
 with open("files\fruits.txt") as file:
  print (file.read())
  time.sleep(10)
```

2.standard python modules

```
import time
import os
while True:
    if os.path.exists("files\vegetables.txt"):
      with open("files\vegetables.txt") as file:
        print(file.read())
    else:
       print ("file does not exist")
    time.sleep(10)
```

3.Third party modules

```
import time
import os
import pandas
while True:
    if os.path.exists("files\vegetables.txt"):
      with open("files\vegetables.txt") as file:
        print(file.read())
    else:
       print ("file does not exist")
```

```
time.sleep(10)
```

4.Third part module example

```
import time
import os
while True:
    if os.path.exists("files\temps_today.csv"):
      data = panadas.read.csv("files\temps_today.csv")
      print(data.mean())
    else:
      print ("file does not exist")
time.sleep(10)
```

5.summary

Imported modules