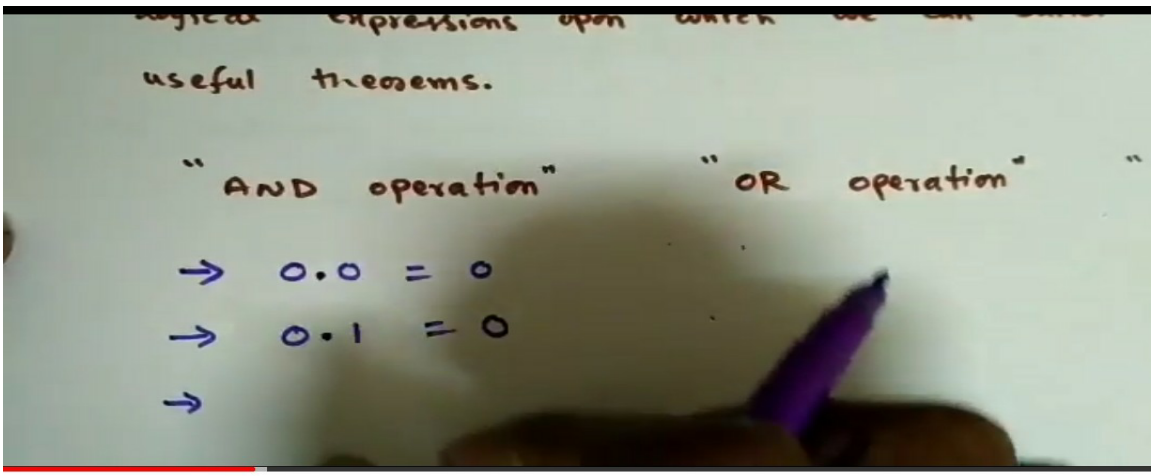
DAILY ASSESSMENT FORMAT

Date:	**28-05-2020**	**Name:**	**K Muthu**
Course:	**Logic Design**	**USN:**	**4al17ec038**
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:**	**6 & 'A'**
Github Repository:	**K.Muthu-courses**		

FORENOON SESSION DETAILS

Image of session



Digital Circuits Lecture-12: Boolean algebra (Part-1)

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Boolean equations for digital circuits :

- Boolean Algebra is used to analyze and simplify the digital (logic) circuits.
- It uses only the binary numbers i.e. 0 and 1.
- It is also called as Binary Algebra or logical Algebra.
- Boolean laws are,
  - ✓ *Commutative law* - This law states that changing the sequence of the variables does not have any effect on the output of a logic circuit.

$$\text{(i) } A.B = B.A \qquad \text{(ii) } A + B = B + A$$

  - ✓ *Associative law* - This law states that the order in which the logic operations are performed is irrelevant as their effect is the same.

$$\text{(i) } (A.B).C = A.(B.C) \qquad \text{(ii) } (A + B) + C = A + (B + C)$$

  - ✓ *Distributive law* - This law states the following condition.

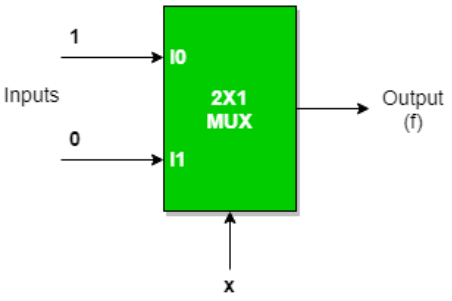
$$A.(B + C) = A.B + A.C$$

Combinational circuits :

- Combinational circuit is a circuit in which we combine the different gates in the circuit, for example encoder, decoder, multiplexer and demultiplexer.

Conversion of MUX to logic gates :

- Multiplexer can act as universal combinational circuit.
- All the standard logic gates can be implemented with multiplexers.
- One example on implementation of logic gates using 2 : 1 MUX
  - ✓ Implementation of NOT gate using 2 : 1 Mux

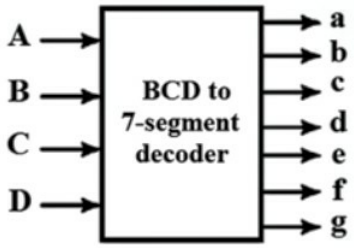


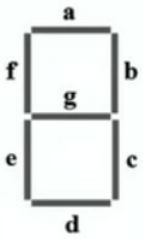
Truth Table

x	f
0	1
1	0

Design of 7 segment decoder with common anode display :

- A display decoder is used to convert a BCD or a binary code into a 7 segment code.
- It generally has 4 input lines and 7 output lines.



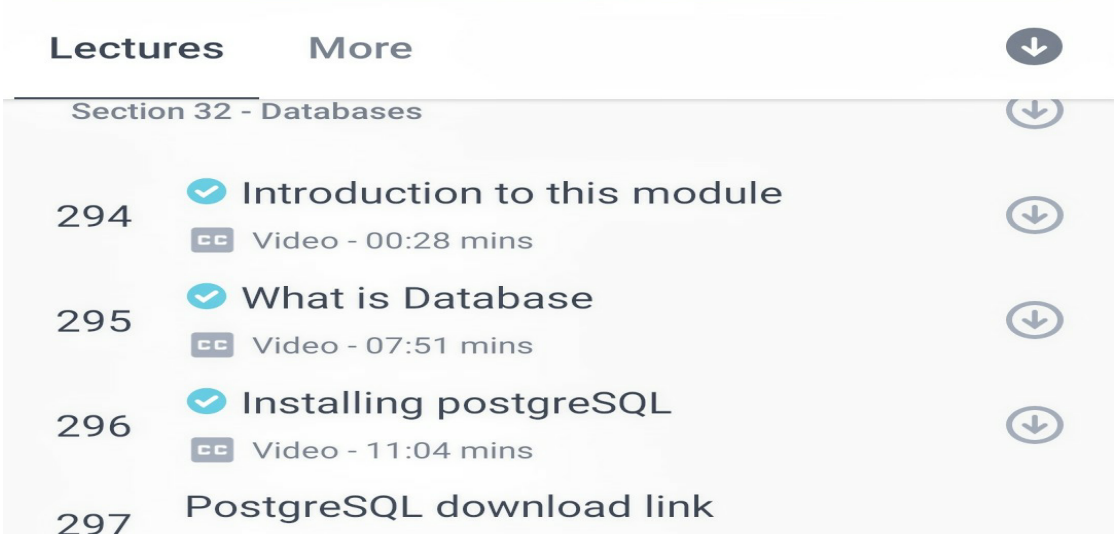


A	B	C	D	a	b	c	d	e	f	g
0	0	0	0	1	1	1	1	1	1	0
0	0	0	1	0	1	1	0	0	0	0
0	0	1	0	1	1	0	1	1	0	1
0	0	1	1	1	1	1	1	0	0	1
0	1	0	0	0	1	1	0	0	1	1
0	1	0	1	1	0	1	1	0	1	1
0	1	1	0	1	0	1	1	1	1	1
0	1	1	1	1	1	1	0	0	0	0
1	0	0	0	1	1	1	1	1	1	1
1	0	0	1	1	1	1	1	0	1	1

Date:	**28-05-2020**	**Name:**	**K Muthu**
Course:	**Python Bootcamp 2020 build 15 working applications and Games**	**USN:**	**4al17ec038**
Topic:	Database	**Semester & Section:**	**6 & 'A'**

AFTERNOON SESSION DETAILS

Image of session



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Database :

- A database is an abstraction over an operating system's file system that makes it easier for developers to build applications that create, read, update and delete persistent data.
- Databases are a concept with many implementations, including PostgreSQL, MySQL and SQLite.
- PostgreSQL and MySQL are two of the most common open source databases for storing Python web applications' data.
- **PostgreSQL database :**
  - ✓ PostgreSQL is the recommended relational database for working with Python web applications.
  - ✓ PostgreSQL's feature set, active development and stability contribute to its usage as the backend for millions of applications live on the Web today.
- **Connecting to a database with Python :** To work with a relational database using Python, you need to use a code library. The most common libraries for relational databases are:
  - ✓ psycopg2 (source code) for PostgreSQL.
  - ✓ MySQLdb (source code) for MySQL.
  - ✓ cx_Oracle for Oracle Database (source code).