

Date:- 28 May 20.

Course:- logic design

Topic:- Boolean equations for digital
acts, decoder, MUX

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Sem:- 6th sem

Sec B section

- * In 1854, George Boole developed an algebraic system called Boolean algebra.
- * Boolean algebra is a system of mathematical logic.
- * It is defined with a set of elements, a set of operators and a number of postulates.
- * There are four laws of Boolean algebra.

1) Commutative law:-

$$X + Y = Y + X$$

$$A + B = B + A$$

$$X \cdot Y = Y \cdot X$$

$$A \cdot B = B \cdot A$$

2) Associative law:-

$$X + (Y + Z) = (X + Y) + Z$$

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

$$X \cdot (Y \cdot Z) = (X \cdot Y) \cdot Z$$

$$A \cdot (B \cdot C) = (A \cdot B) \cdot C$$

3) Distributive law

$$X(Y + Z) = XY + XZ$$

$$A(B + C) = AB + AC$$

4) Absorption theorem

$$X + XY = X$$

$$A + AB = A$$

$$X + \overline{X}Y = X + Y$$

* MUX to logic gates conversion:-

- 1) NAND, NOR universal gates
- 2) MUX and demuxers are called universal logic

→ MUX is devices which selects one or several digital or analog
Inputs and it will forward it to the outputs, which is
single output line.

Date:- 28 May 20

Course:- python

Topic:- python for Image and
video processing with cv
files

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Sec B section.

- * PIL is the python image library which provides the Python interpreter with image editing capabilities.
- * It was developed by Fredrik Lundh and several other contributors.
- * Face detection is a computer vision technology that helps to locate/visualize human faces in digital images.
- * Python Image Library supports a wide variety of raster file formats. Over 30 different file formats can be identified and read by the library.
- * Pre-requisites, Hands-on-knowledge of Numpy and Matplotlib is essential before working on the concepts of Open CV.
- * Open CV was started at Intel in the year 1999 by Gary Bradsky. The first release came a little later in the year 2000.
- * Open CV essentially stands for open source computer vision library. Although it is written in optimized C/C++.
- * It has interfaces for python and Java along with C++.
- * Open CV boasts of an active users base all over the world with its use increasing day by day due to the surge in computer vision applications.

- * These broken visualization library for python. Unlike matplotlib and seaborn, they are also python packages for data visualization.
- * Broken renders its plots using HTML and Java script.
- * Broken project is sponsored by NumFocus also supports pyData an educational program involved in development of other important tools.