**DAILY ASSESSMENT FORMAT**

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| **Date:** | 28 may 2020 | **Name:** | veronica gudagur |
| **Course:** | logic design | **USN:** | 4al16ec091 |
| **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:** | 8-B |
| **Github Repository:** | veronica-g |  |  |

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| **FORENOON SESSION DETAILS** |
| **Image of session**  **C:\Users\Nelson\Desktop\logic 1.PNG**  **l2.PNG** |
| **Report:**  Boolean algebra is based upon binary scheme.  The two values may be expressed in many ways, such as true or false, 1 or 0, and "on" or "off".  **Boolean laws:**  **Commutative Law:**  (a) A + B = B + A (b) A B = B A    **Associate Law:**  (a) (A + B) + C = A + (B + C) (b) (A B) C = A (B C)    **Distributive Law:**  (a) A (B + C) = A B + A C (b) A + (B C) = (A + B) (A + C)    **Identity Laws:**  (a) A + A = A (b) A A = A  (a) AB +ANOT B = A (b) (A+B)(A+NOT B) = A    **Redundancy Laws:**  (a) A + A B = A (b) A (A + B) = A  (a) 0 + A = A (b) 0 A = 0  (a) 1 + A = 1 (b) 1 A = A  (a) A+NOT A = 1 (b) A NOT A = 0  (a) A+NOT AB = A+B (b) A(NOT A+B) = AB  **Involution Law:**  (a) NOT A = A    **De Morgan's Theorem:**  (a) NOT A or B = NOT A NOT B    (b) NOT A = NOT A + NOT B  Note: NOT A NOT B is different from NOT A Logic Gates Logic gates may have two or more inputs and, except in some special cases, they have a single output. The status of the input and output terminals can only be in one of the two binary conditions, either low (0) or high (1), represented by two different voltage levels, typically 0 volts for logic 0, and around 3 to 5 volts for logic 1.  OR Gates **The Multiplexer:**  The multiplexer is a combinational logic circuit designed to switch one of several input lines to a single common output line    **Design of 7 segment decoder with common anode display:**  A **Digital Decoder** IC, is a device which converts one digital format into another and one of the most commonly used devices for doing this is called the Binary Coded Decimal (BCD) to 7-Segment Display Decoder.  7-segment LED (Light Emitting Diode) or LCD (Liquid Crystal Display) type displays, provide a very convenient way of displaying information or digital data in the form of numbers, letters or even alpha-numerical characters.  Typically 7 segment consist of seven individual coloured LED’s (called the segments), within one single display package. In order to produce the required numbers or HEX characters from 0 to 9 and A to F respectively, on the display the correct combination of LED segments need to be illuminated and **BCD to 7-segment Display Decoders** such as the 74LS47 do just that.  bcd display decoder |