COA LAB(INTERNAL)

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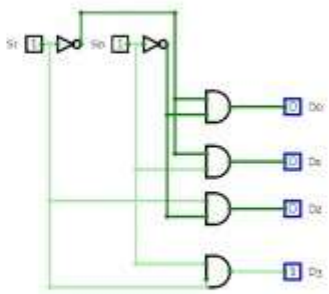
a)Implementation of 4*1 Multiplexer and 2*4 Decoder on simulator as well as Hardware Chip

b) Implementation of 8*1 Multiplexer and 3*8 Decoder on simulator as well as Hardware Chip.

DECODER (2*4)

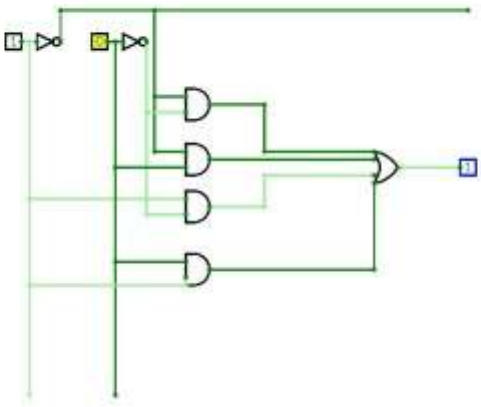
A decoder is a device that converts an input, such as a digital signal, into an output that humans can understand.

2X4



MULTIPLEXER(4*1)

A multiplexer (MUX) is a device that selects an input signal from multiple inputs and forwards it to a single output line. It is also known as a data selector. 4X1



4-to-1 Multiplexer

A **Multiplexer (MUX)** is a combinational circuit that selects one of several input signals and forwards the selected input to a single output line. A **4-to-1 MUX** has 4 input lines, 2 control lines (select lines), and 1 output line.

- **Inputs:**
  - 4 data inputs: I0, I1 , I2 ,I3
  - 2 select lines: S0,S1
- **Output:**
  - 1 output: Y