

**EGE UNIVERSITY**  
**LOGIC DESIGN LABORATORY**  
**EXPERIMENT-4**

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**Decoders, Multiplexers**

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1- **Draw** the logic diagram of 2x4 decoder.



2- **Connect** the 2x4 decoder circuit you designed and check its operation.

3- **Draw** the logic diagram of 4x1 multiplexer.



4- **Connect** the 4x1 multiplexer circuit you designed and check its operation.

5- Implement the function  $F = X + Y$  using

- (a) the 2x4 decoder
- (b) the 4x1 multiplexer

you connected, and check its operation.

**Required Equipment:** 7408 AND, 7432 OR and 7404 NOT gates, switches for the inputs and leds for output.

