ÓBUDAI EGYETEM NEUMANN JÁNOS
INFORMATIKAI KAR

Digital systems
e –learning - materials

Lab pratice

Lab-05
Multiplexer circuit

ÓE-NIK

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1. Lab-05: Multiplexer circuit

1.1. Aim of laboratory:

Aim of the laboratory is the analysis of multiplexer circuits. You will design a multiplexer with eight inputs and you shall create the circuit schematic afterwards. The circuit can be implemented on the Basys board after simulation and testing of schematic.

1.2. Creation of schematic

The multiplexer is a circuit which let only a single of its inputs through itself, depending on the address received on the selector bits (dedicated inputs). This is one of the most commonly used combinatorial circuit. In the simplest case the address is a single bit selector signal, which select one from two input lines (I0 and I1) (see Fig. 1 and Fig 2.). The truth table for two inputs can be found below:
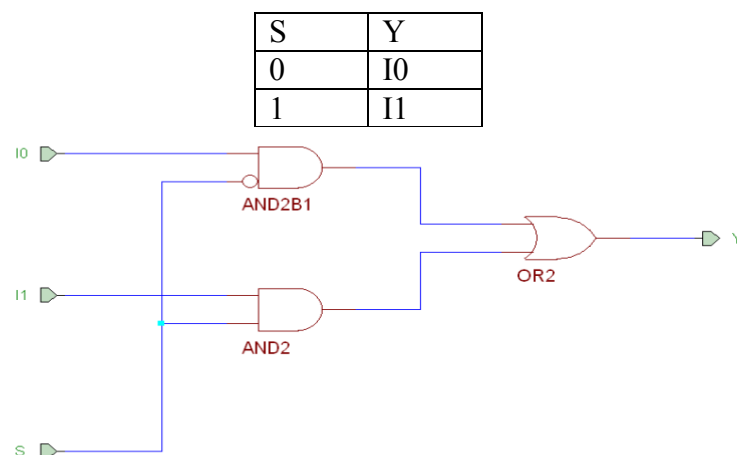
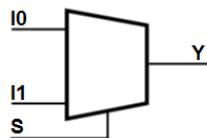| S	Y
0	I0
1	I1

Figure 1. – Schematic of a two bit multiplexer

Figure 2.- Block scheme of two bit multiplexer