

Multiplexers

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Introduction

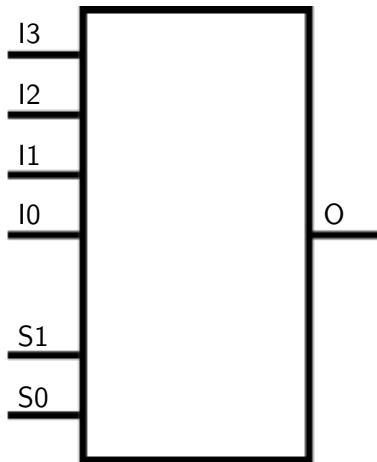
Introduction

- A multiplexer has several input lines, select inputs, and one or more outputs.

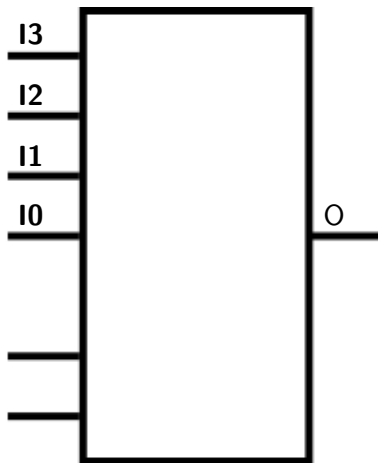
Introduction

- A multiplexer has several input lines, select inputs, and one or more outputs.

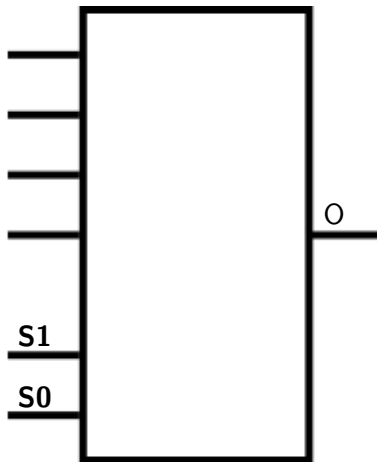
The outputs follow whichever input is identified by the select inputs.



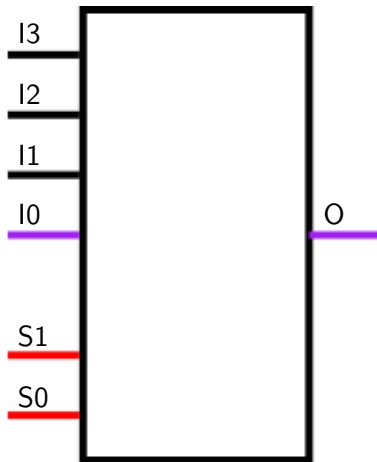
This is a 4 input multiplexer.



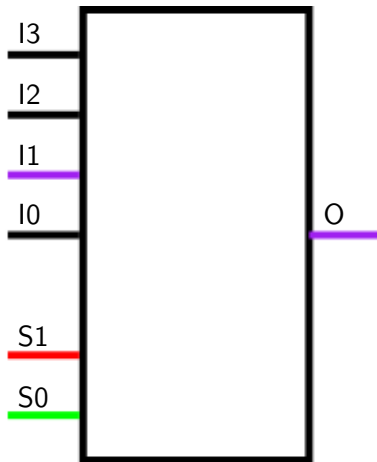
These are the inputs.



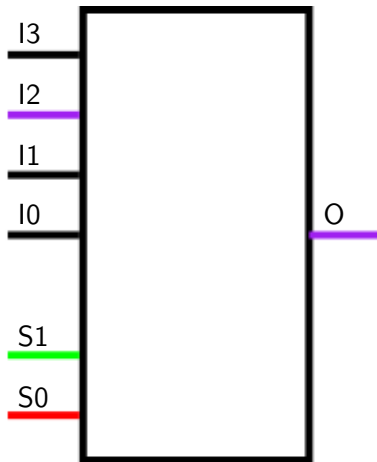
These are the *select* inputs.



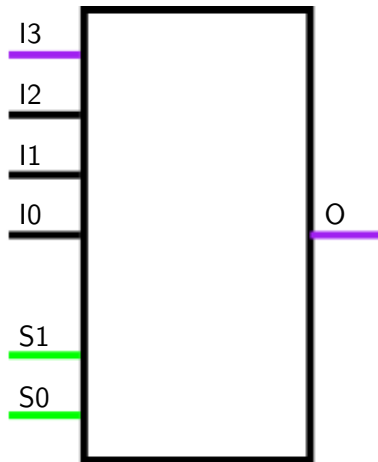
When input 0 is selected, the output follows input I0.



When input 1 is selected, the output follows input I1.

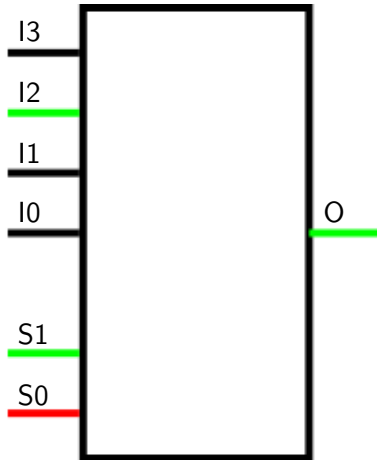


When input 2 is selected, the output follows input I2.

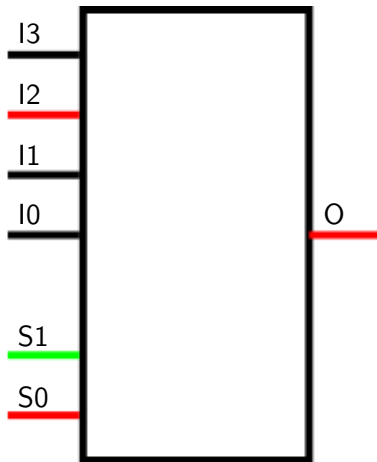


When input 3 is selected, the output follows input I3.

Here's a closer look where a single input, I2, is selected.

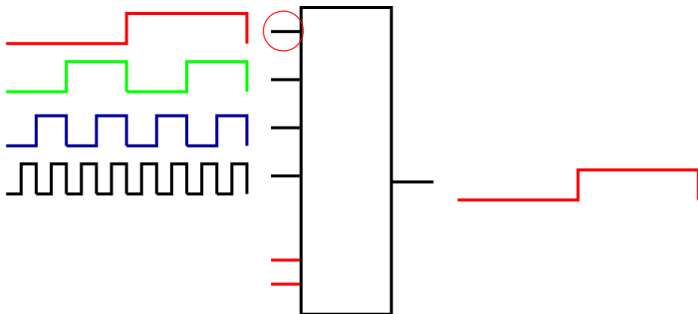


When input 2 is selected, and input 2 is HIGH the output is HIGH.

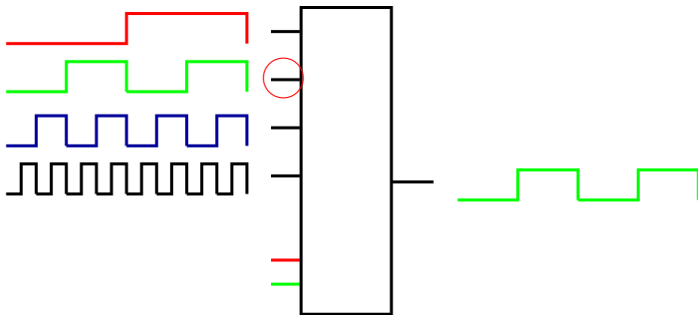


When input 2 is selected, and input 2 is **LOW** the output is **LOW**.

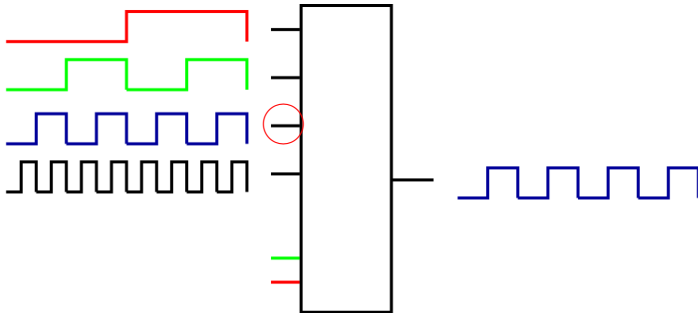
Here's an illustration with time-varying input signals.



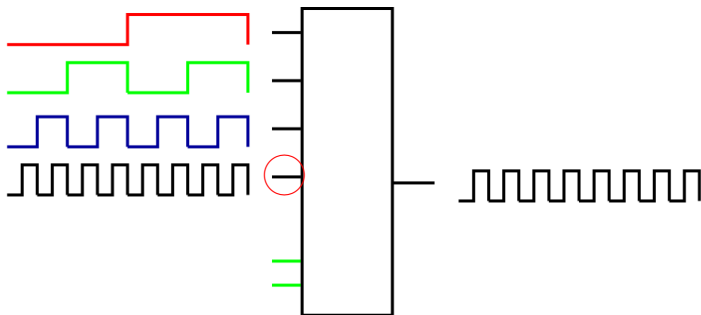
When input 0 is selected, the output follows input I0.



When input 1 is selected, the output follows input I1.



When input 2 is selected, the output follows input I2.



When input 3 is selected, the output follows input I3.