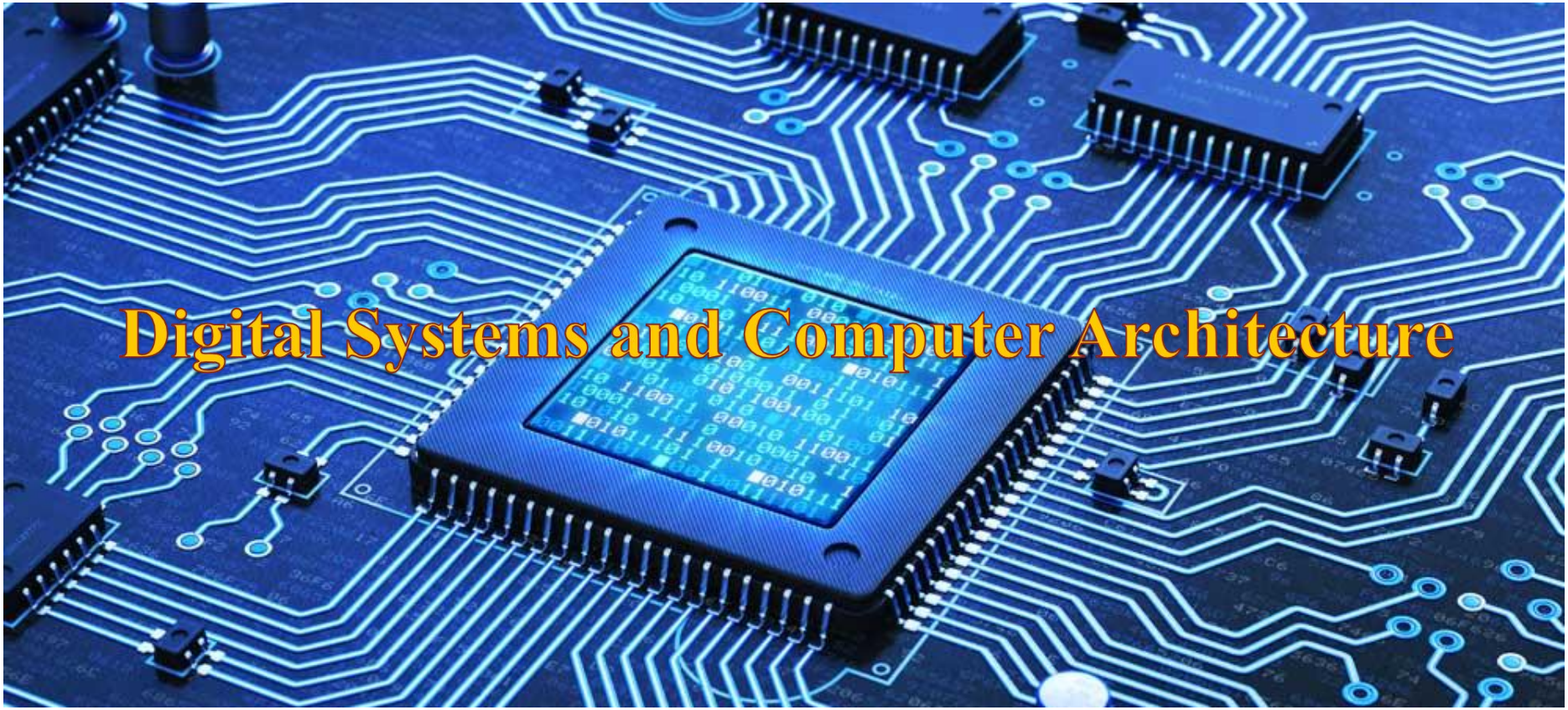


Session 2.9

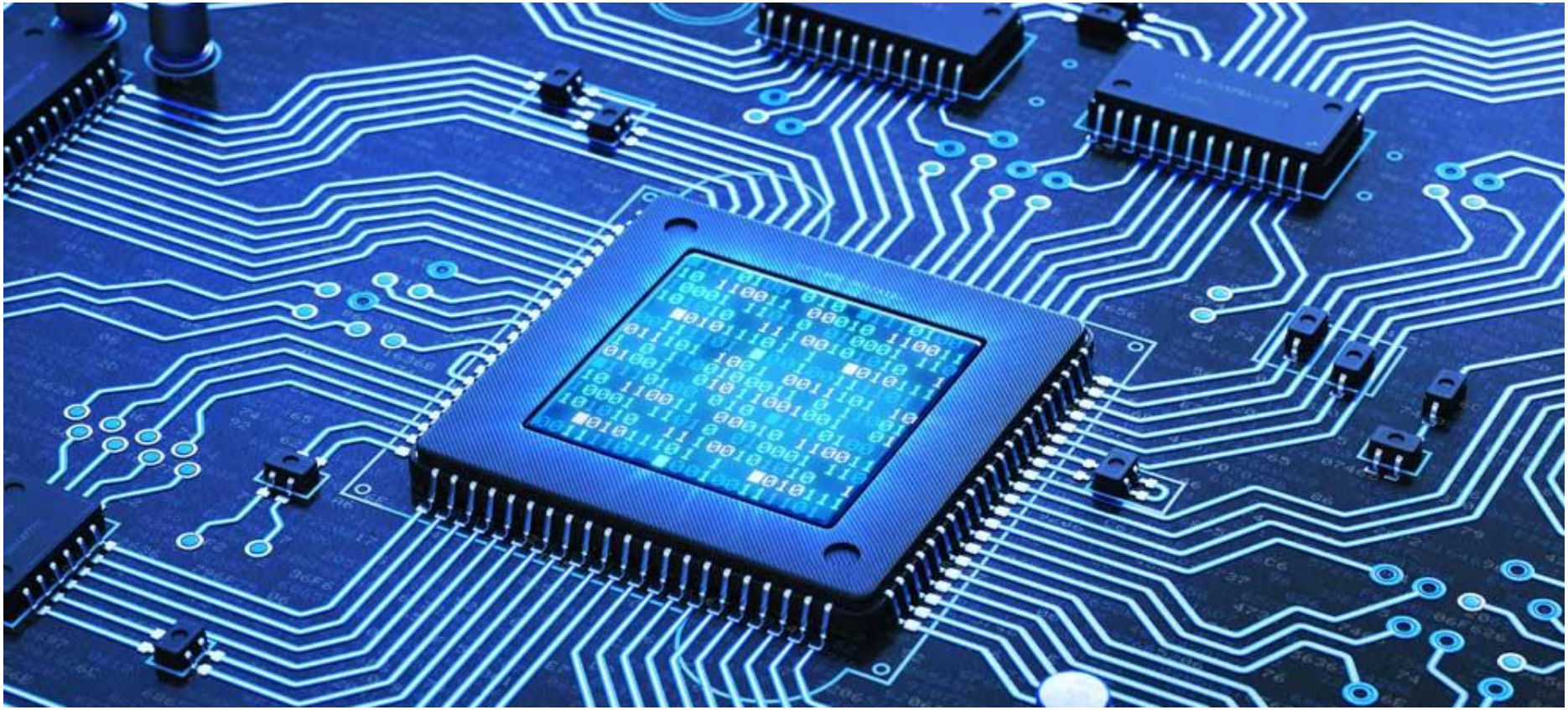
Module 2

Mouli Sankaran

Demultiplexers

Session 2.9: Focus

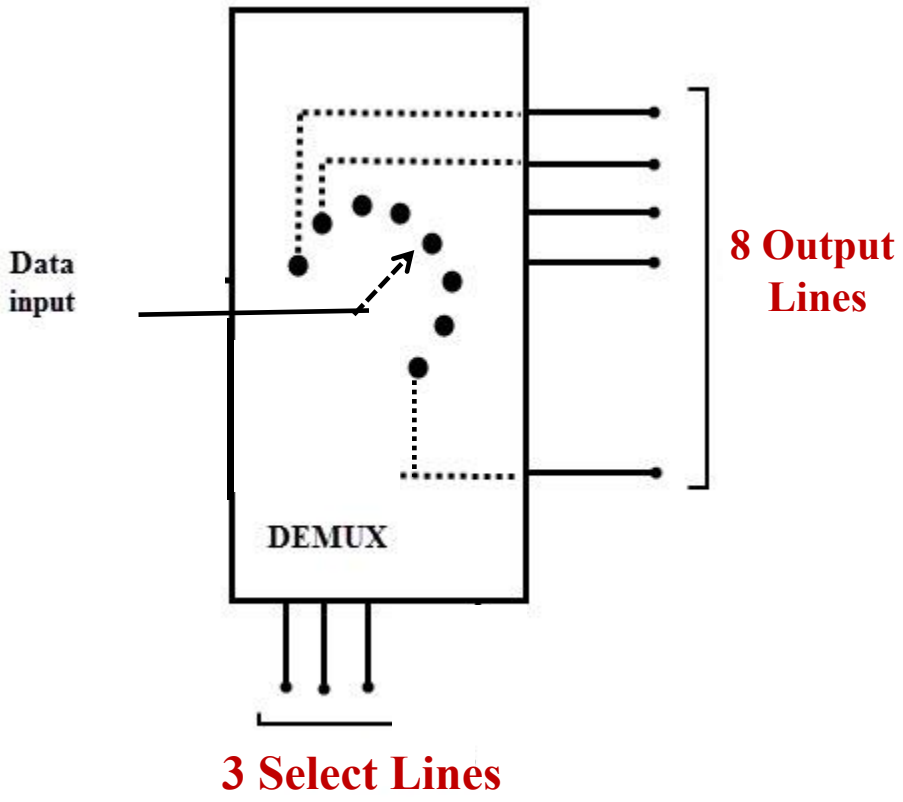
- Demultiplexer (DEMUX)
  - 1-to-4-line Demultiplexer
  - Symbols or Representation
  - Usage in Real-life Applications



Demultiplexer (DEMUX)

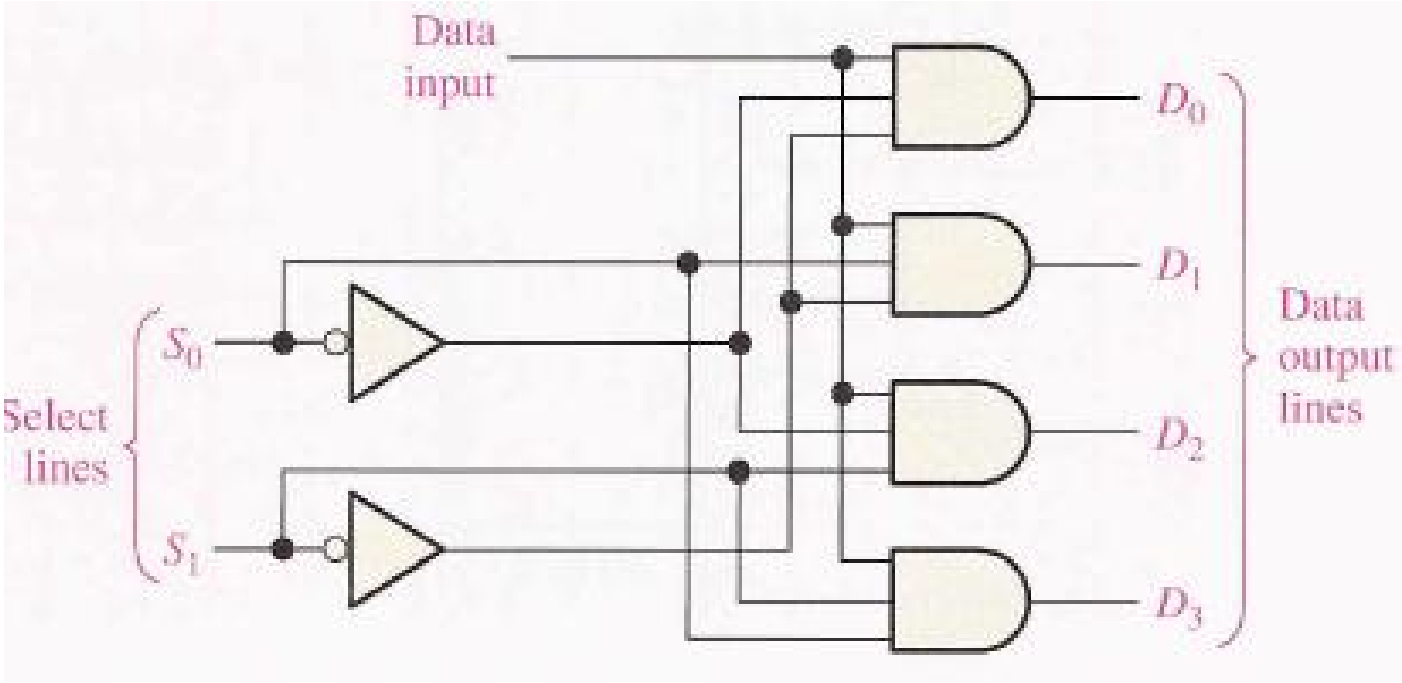
Demultiplexer (DEMUX)

- A demultiplexer (**DEMUX**) basically reverses the multiplexing function
- It **takes** digital **information** from **one line** and **distributes** it to one **of the output lines**
  - Based on the **data-select** inputs
- For this reason, it is also known as **data distributor**



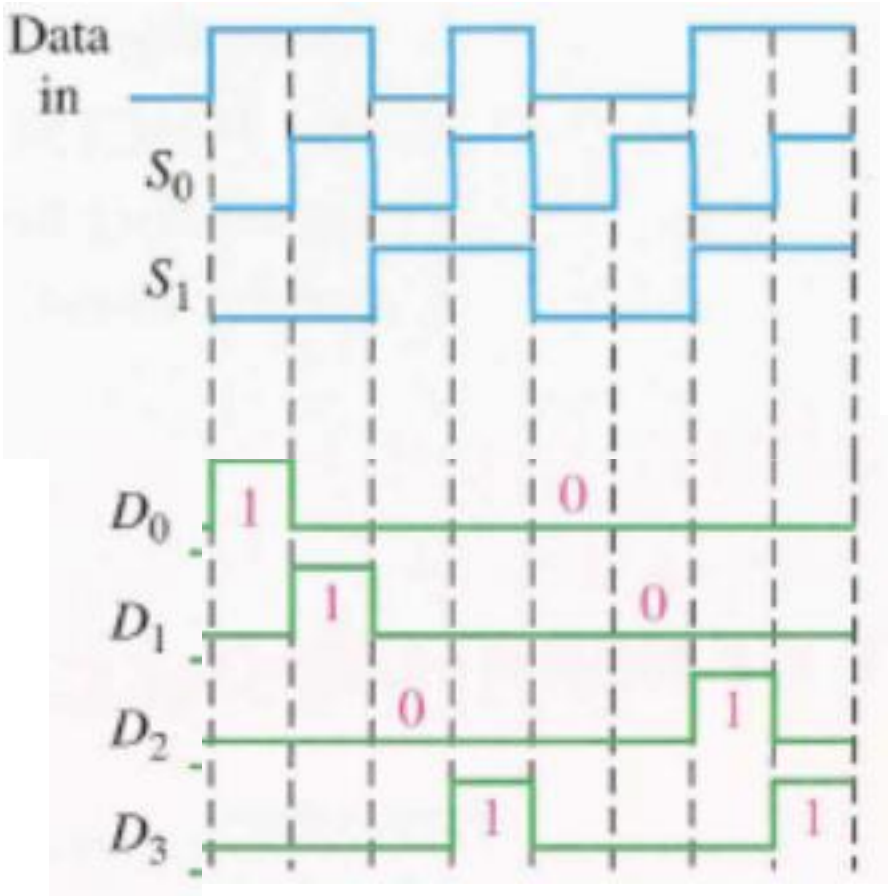
1-to-4 line Demultiplexer

- For example, if the **data select** lines are ($\mathbf{S_1S_0}$ - $\mathbf{10_b}$) then **data input** will be sent out through $\mathbf{D_2}$ output line

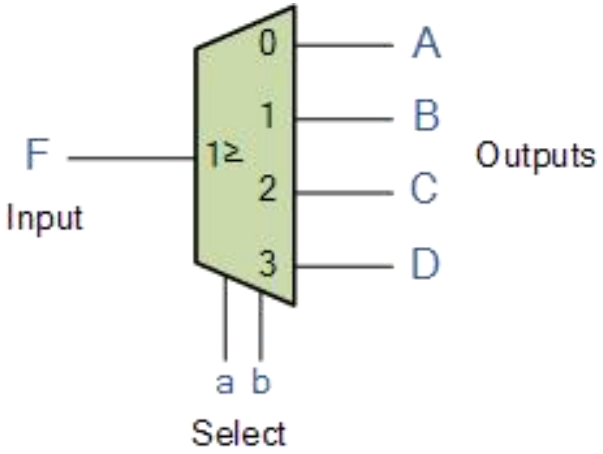


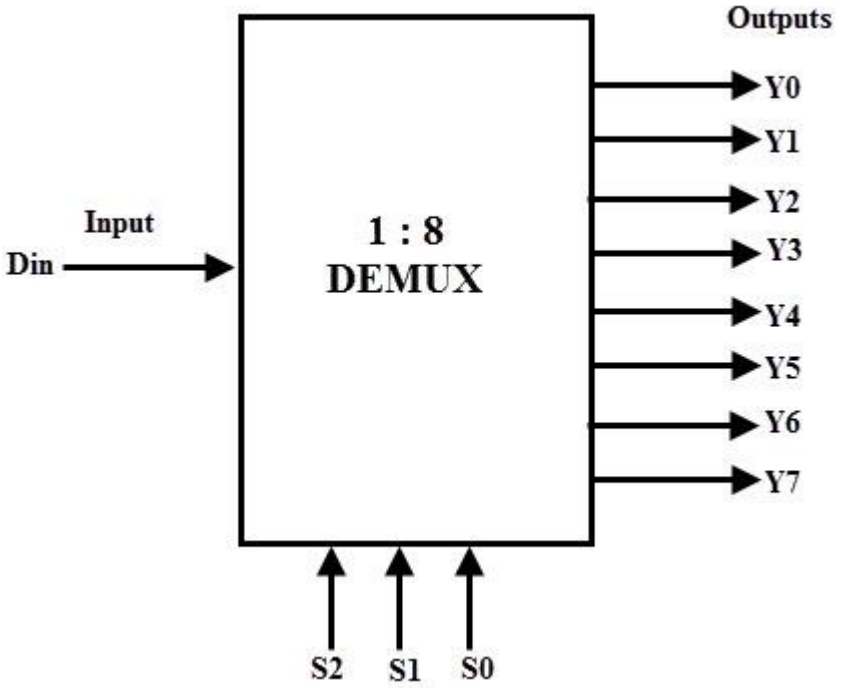
Quiz 1: Draw the Output Waveforms

- Given **data-input** and **data-select waveforms**, **draw** the **output waveforms on D_0 to D_3**

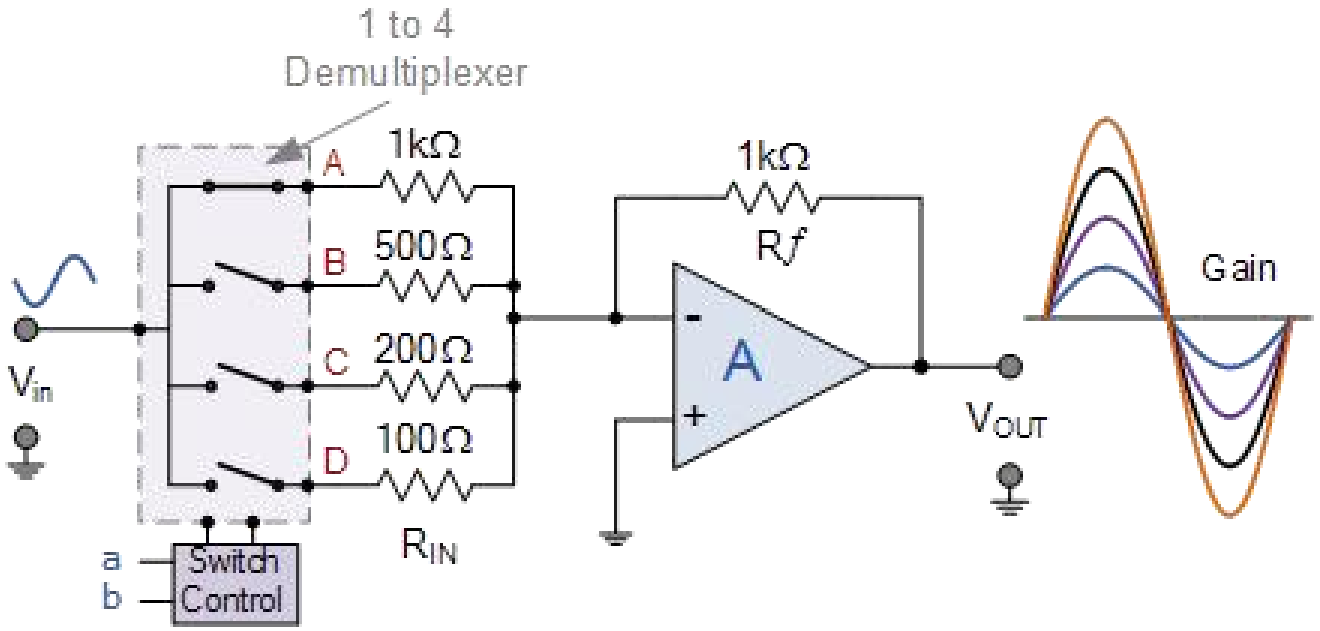


DEMUX: Symbol or Representations





Demux : Application



One of the Paths (A/B/C/D) is chosen,
to get different amplification of input signal

A: OpAmp: Operational Amplifier