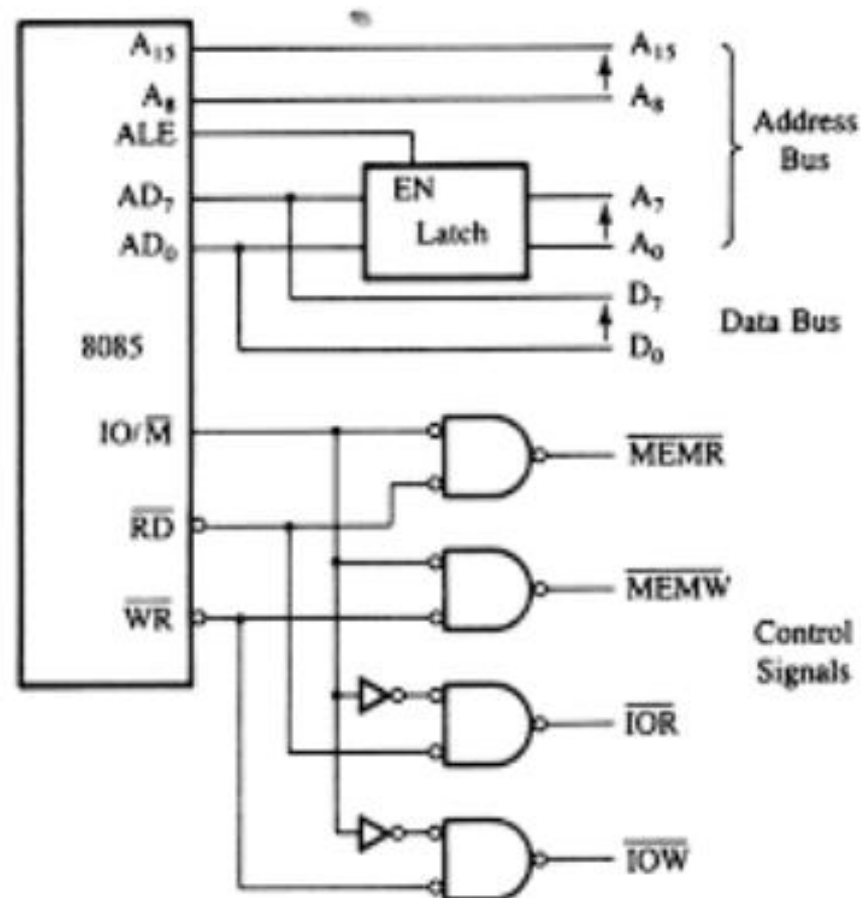


Generation of control signals

Generation of control signals

- The following circuitry will show De-multiplexing of AD0-AD7 and Generating control signals:



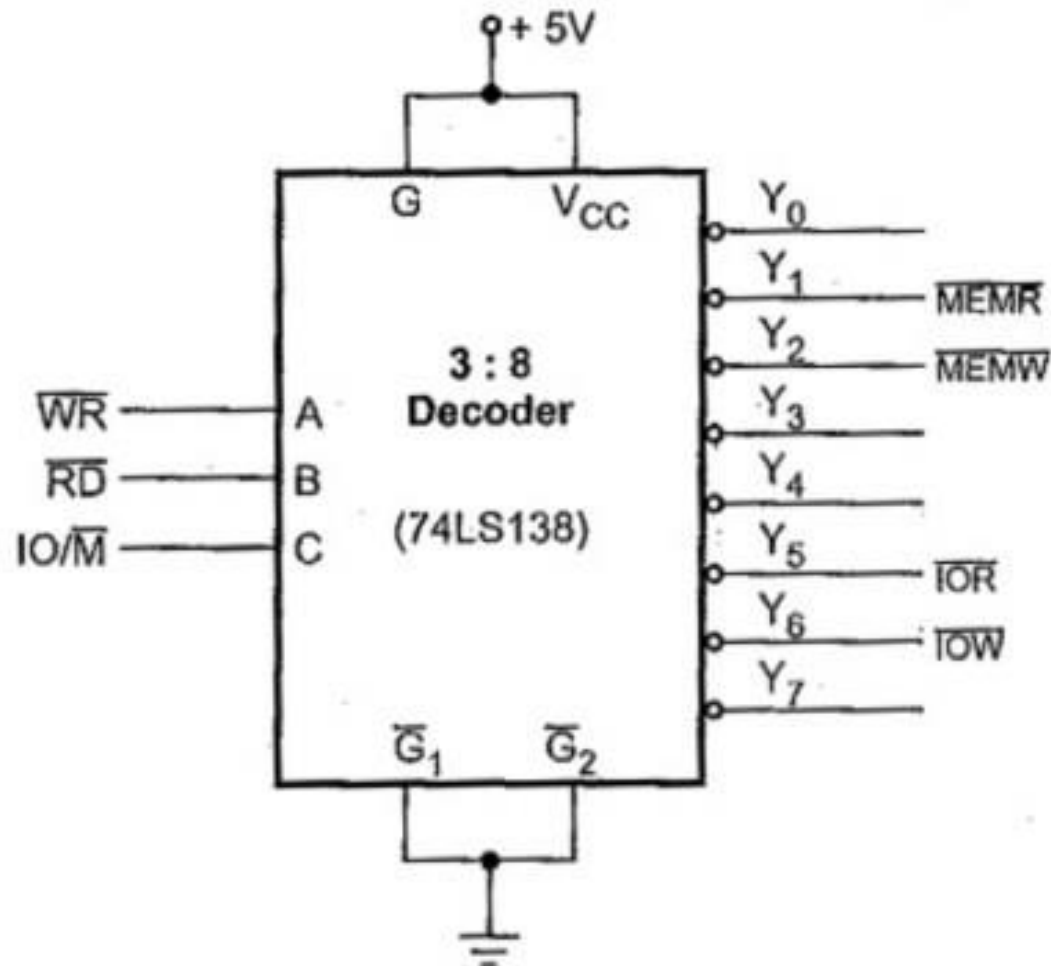
Generation of control signals using 74138 decoder

- 8085 issues three control signals; **IO/M** to specify if the operation is for an I/O device or a memory and
- **RD** and **WR** to specify if the operation is a read operation or a write operation.
- Since these signals deal with the two categories (read/write and memory/IO) separately
- it makes it a little complex to interface the microprocessor with the memory or I/O device.

Generation of control signals using 74138 decoder

- To simplify things, generate four direct and easy to understand signals from the above three signals.
- ***MEMR*** (Memory Read)
- ***MEMW*** (Memory Read)
- ***IOR*** (I/O Read)
- ***IOW*** (I/O Read)

Interfacing the 74LS138 decoder with 8085



Generation of control signals

Fig. 4.8 shows the circuit which generates MEMR, MEMW, IOR and IOW signals.

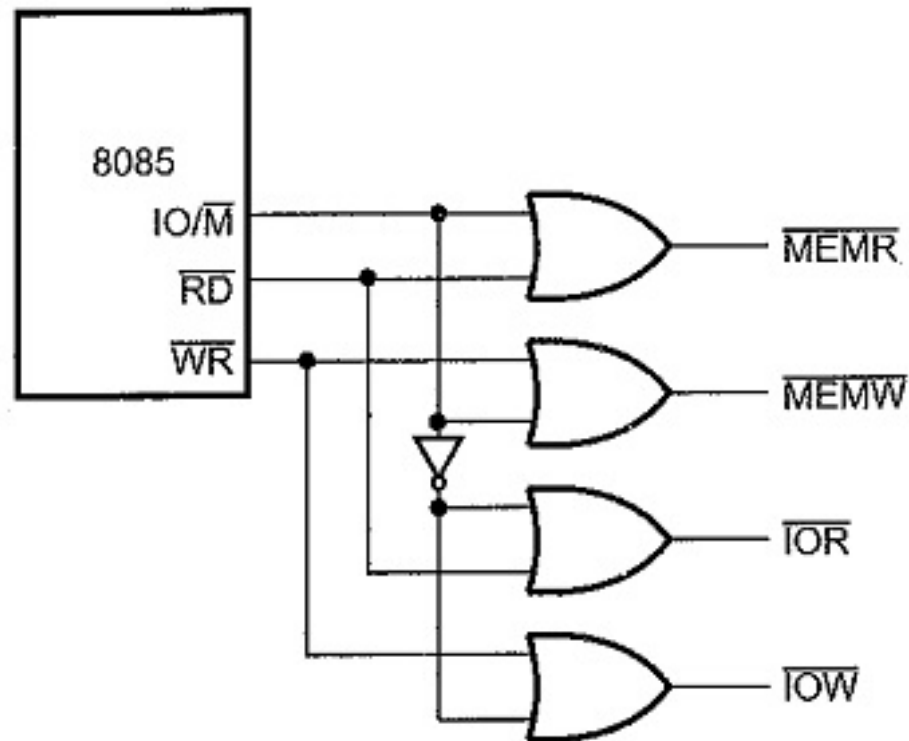


Fig. 4.8 Generation of MEMR, MEMW, IOR and IOW signals