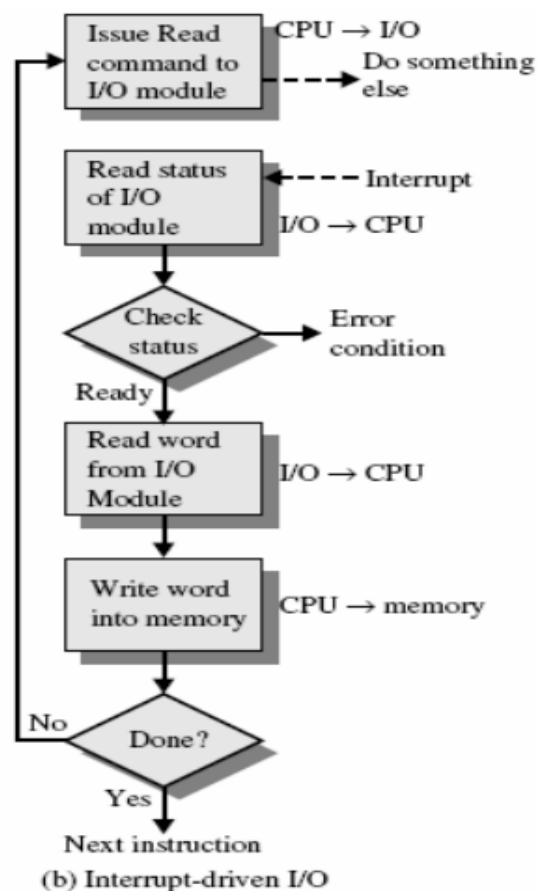# Lecture10 Assignments

1. What are the advantages and disadvantages of supporting **memory mapped I/O** to device control registers?

2. Describe **I/O Polling**. Why is I/O polling inefficient? Suggests solution(s) to overcome the inefficiency of the I/O polling operation.

3. Briefly describe the **Direct Memory Access** (DMA) I/O operation. Point out the advantages of the DMA operation over **memory-mapped** and **direct I/O** operations.

4. Describe various circumstances under which **nonblocking I/O** should be used. Why not just implement non-blocking I/O and keep processes busy until their devices are ready?

5. What are the advantages and disadvantages of supporting **memory-mapped I/O** to device control registers?

6. What are the advantages and disadvantages of supporting **memory-mapped I/O** to device control registers?

7. Identify the nature of **I/O operation** from the given flow chart:

(b) Interrupt-driven I/O

8. Identify the nature of the I/O operation from the given flow chart:

Issue Read command to I/O module	CPU → I/O
Read status of I/O module	I/O → CPU
Check status	Error condition
Read word from I/O Module	I/O → CPU
Write word into memory	CPU → memory
Done?	

Not ready

Ready

No

Yes

Next instruction

(a) Programmed I/O