Organization of I/O Function

1) 2. Programmed I/O

Programmed I/O basically works in these ways.

① CPU request I/O operation.

② I/O module perform operation

③ I/O module sets status bits

④ CPU checks status bits periodically.

⑤ I/O module does not inform CPU directly.

⑥ I/O module does not interupt CPU.

⑦ CPU may wait or come back later.

2. Interrupt driven I/O

In the interrupt driven I/O, an interrupt occurs on every character.
These interrupts wastes a certain amt. of CPU time.

3. I/O using DMA (Direct Memory Access)

To avoid the prob. of time wastage, use of DMA is a solution.
DMA controller controls I/O devices & solves the prob. of time wastage caused due to interrupts.

1. Goals of the I/O Software:

① Device independence
The program or the device should not depend on actual device being used.

② Uniform nameing
The name of a file or device should be unique.

③ Error handling.
Error should be handled so that minimum damage happens.

④ Buffering.
It means temporary storing data and it is often necessary before it is deliver.