Fast and expensive

Registers

Cache

Main memory

Secondary storage (disks)

Off-line storage (tape)

Slow and inexpensive
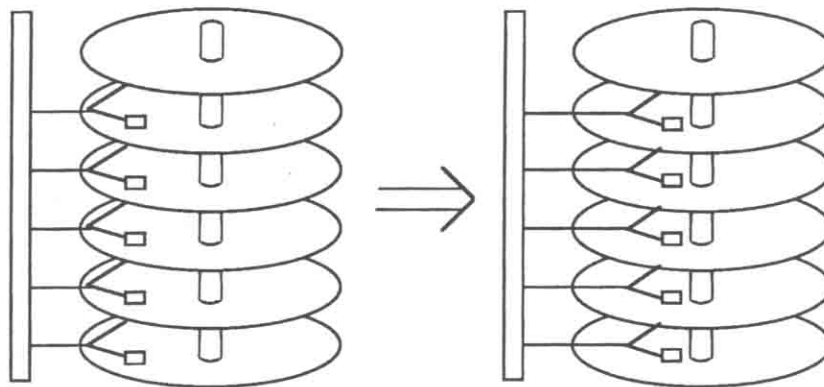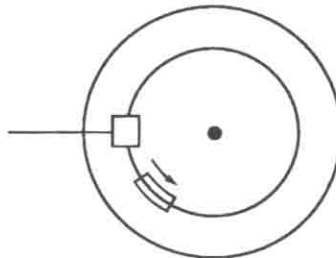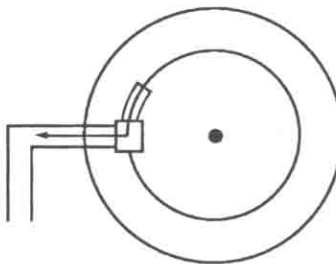
Increasing
performance and
increasing cost

Figure 7-1   The memory hierarchy.

Seek time:
The read/write heads move from one position
to another to access data.

Latency:
The read/write head waits while the disk
surface rotates and the data area comes
under the head.

Data transfer rate:
The rate at which bits are copied to or from the
storage medium.
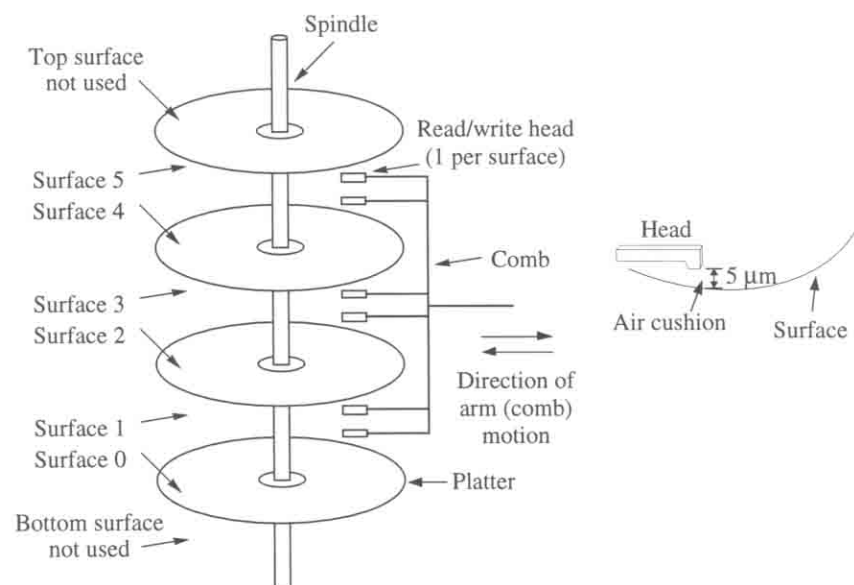
Figure 4.8   *Disk access times.*

Figure 8-1   A magnetic disk with four platters (Adapted from [Tanenbaum, 1990]).
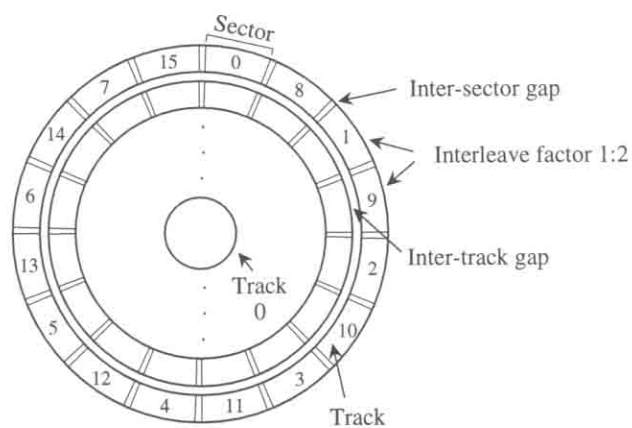

Figure 8-3   Organization of a disk platter with a 1:2 interleave factor.
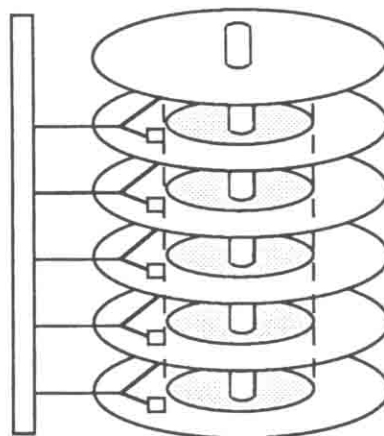

Figure 4.11 A disk pack and a cylinder defined by one position of read/write heads.