

hed sequentially and its pointer is used to access the file directly.

Space Allocation

Files are allocated disk spaces by operating system. Operating systems deploy following three main ways to allocate disk space to files.

Contiguous Allocation

Linked Allocation

Indexed Allocation

Contiguous Allocation

Each file occupies a contiguous address space on disk.

Assigned disk address is in linear order.

Easy to implement.

External fragmentation is a major issue with this type of allocation technique.

Linked Allocation

Each file carries a list of links to disk blocks.

Directory contains link / pointer to first block of a file.

No external fragmentation

Effectively used in sequential access file.

Inefficient in case of direct access file.

Indexed Allocation

Provides solutions to problems of contiguous and linked allocation.

A index block is created having all pointers to files.

Each file has its own index block which stores the addresses of disk space occupied by the file.

Directory contains the addresses of index blocks of files.

Memory management is the functionality of an operating system which handles or manages primary memory and moves processes back and forth between main memory and disk during execution. Memory management keeps track of each and every memory location, regardless