

MEMORY AND MEMORY MANAGEMENT

Types of Memory:

Primary Memory (eg. RAM)

Holds data and programs used by a process that is executing

Only type of memory that a CPU deals with

Secondary Memory (eg. hard disk)

Non-volatile memory used to store data when a process is not executing.

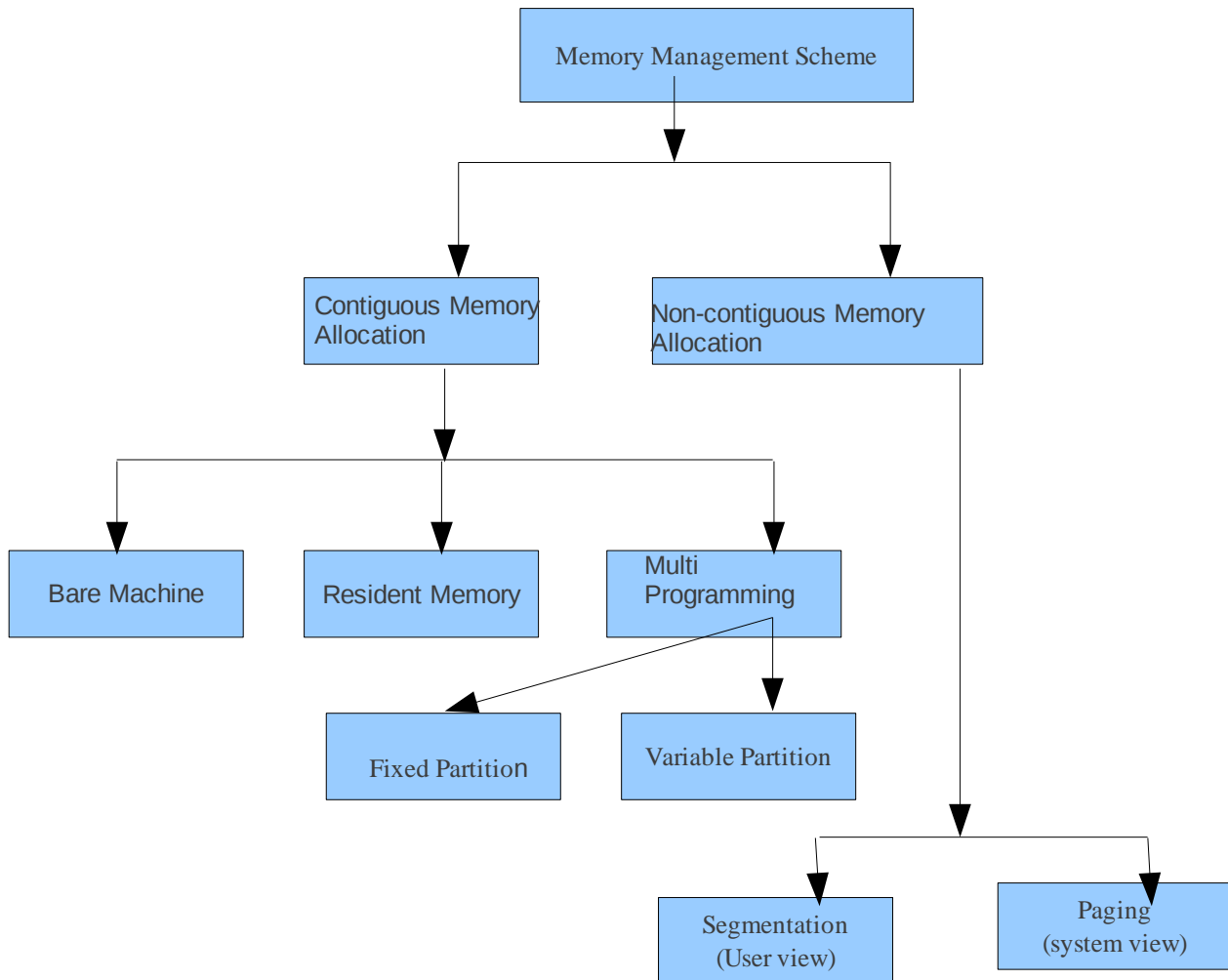


Fig:Types of Memory management

Memory Management:

Memory management is the act of managing computer memory. In its simpler forms, this involves providing ways to allocate portions of memory to programs at their request, and freeing it for reuse when no longer needed. The management of main memory is critical to the computer system.

In a uniprogramming system, Main memory is divided into two parts:

- one part for the OS
- one part for the program currently being executed.

In a multiprogramming system, the user part of the memory must be further subdivided to accommodate multiple processes. The task of subdivision is carried out dynamically by the Operating System and is known as Memory Management.

Two major schemes for memory management.

1. Contiguous Memory Allocation
2. Non-contiguous memory Allocation

Contiguous allocation

It means that each logical object is placed in a set of memory locations with strictly consecutive addresses.

Non-contiguous allocation

It implies that a single logical object may be placed in non-consecutive sets of memory locations. Paging (System view) and Segmentation (User view) are the two mechanisms that are used to manage non-contiguous memory allocation.

Memory Partitioning:

1. Fixed Partitioning:

Source : <http://dayaramb.files.wordpress.com/2012/02/operating-system-pu.pdf>