RAAK ARTS AND SCIENCE COLLEGE

(Affiliated to Thiruvalluvar University)

Perambai

DEPARTMENT OF COMPUTER SCIENCE

REGULATION CBCS - 2017

ThirdYear & Fifth Semester

ASSIGNMENT-3

BCS52-OPERATING SYSTEM

UNIT-V

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Memory Management

List another way of keeping track Of memory is to maintain a linked list of allocation and free Memory Segments where a segment is either a Process or a hole between two Processes.

Each entry in the list specifies a hole (H) or Process (P), the address at which it starts, the length and a pointer to the next entry.

In this example, the segment list is kept sorted by address sorting this way has the advantage that when a process terminates or is swapped out updating the list is straight forward.

A terminate process normally has two neighbors (except when it is at the very top or very bottom of memory). These may be either process or hole are kept on a list sorted by address, serval algorithm can be used to allocate

Memory for a newly created process (or on existing process being swapped in from disk). We assume that the memory manager knows how many Memory to allocate.

First fit:

The simplest algorithm is First fit.

First fit is a fast algorithm because it searches as little as possible.

Next fit:

It work the same way as first fit, except that it keeps track of where it is whenever it finds a suitable hole.

The next time it is called to find a hole it starts searching the list from the place where it left off last time, instead of always at the beginning, as first fit does.

Best fit:

Best fit Searches the entire list and takes the smallest hole that is adequate.

Rather than breaking up a bing hole that might be needed later, best fit tries to find a hole that is Close to the actual Size needed

Worst fit:

Always take the largest available hole, so that the hole broken off will be big enough to be useful

Simulation has shown that worst fit is not a very good idea either.

Quick fit:

Maintains separate lists for some of the more common size requested.

Paging:

Paging is a fixed size partitioning scheme.

In Paging, secondary memory and main memory are divided into equal fixed size partitions of main memory are called as frames.

The Partitions of Secondary
Memory are called as pages.
The Partitions Of main
Memory are called as Frames.

Frames

main memory

Pages

Secondary
Memory
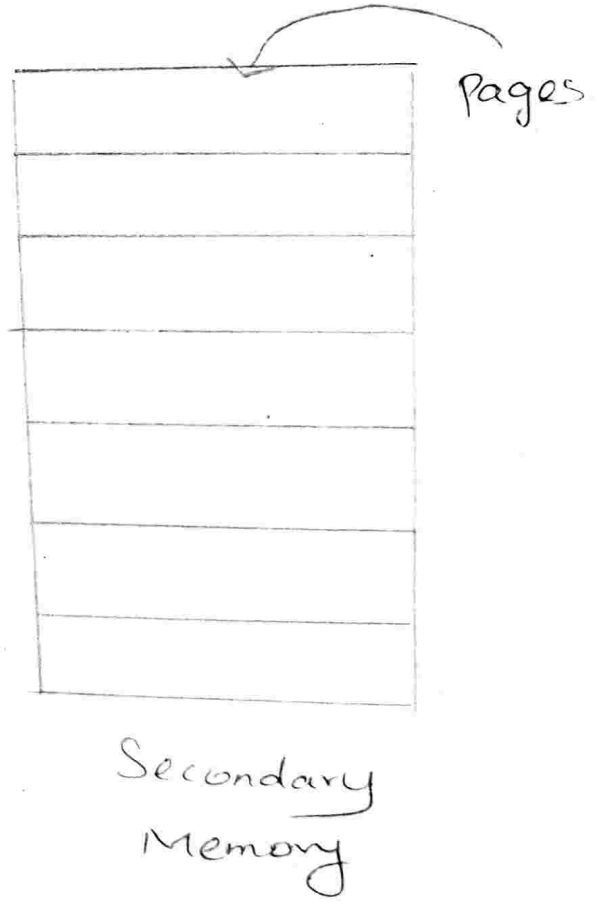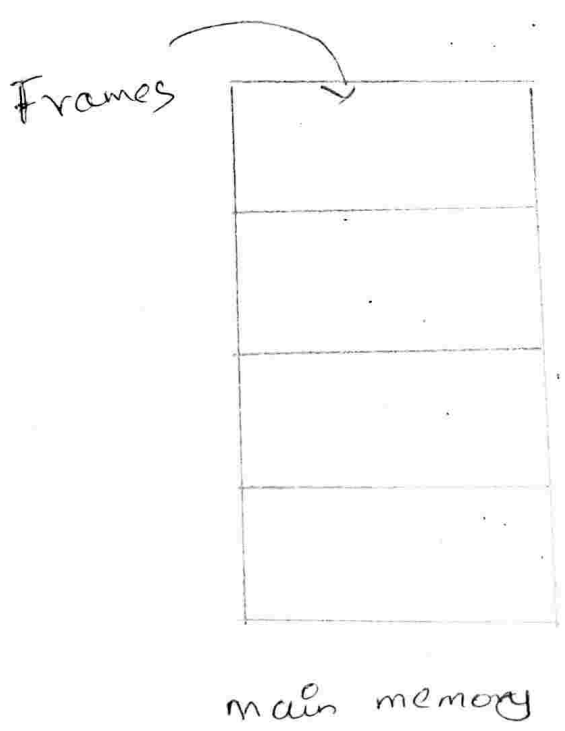
Each Process is divided into Parts where Size of each Part is same as page Size.

The size of the last Part may be less than the page Size.

The Pages of process are Stored in the frames of main memory depending upon their availability.