

Q.5

Section -> 2

Q1 Describe swap-in & swap-out in Demand paging. Describe multithreading & its various models.

Sol<sup>n</sup>

When our main memory (RAM) is not enough to temporarily store multiple program then we take some program from RAM & store them into the harddisk by a mechanism called swap out. Similarly when RAM is free, then we again swap in the programs from hard disk to RAM.

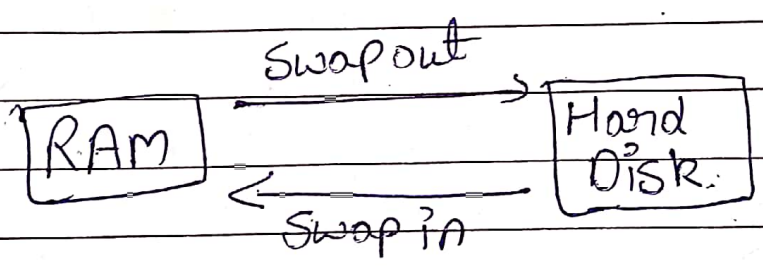


Fig: Swapping, swap in, swapout

Swapout means to take the program from RAM & to bring them in Hard disk, Swapping in means to take the program from hard disk & again bring to the RAM.

Multithreading

A thread is flow of execution through the process code, with its own program counter that keeps track of which instruction to execute next. system registers which hold its current working variables, & a stack which contains the execution history

### Multithreading Models:

Some operating system provide a combined user level thread & kernel level thread facility. Solaris is a good example of this combined approach. In a combined system, multiple thread within the same application can run in parallel on multiple processor & a blocking system call need not block the entire process.

Multithreading models are three types.

- many to many relationship.
- many to one relationship.
- one to one relationship.