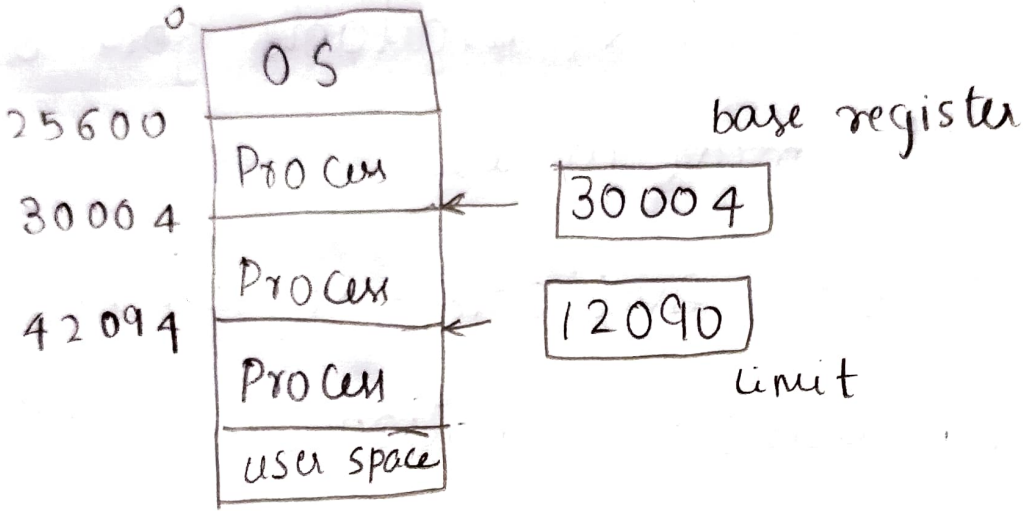
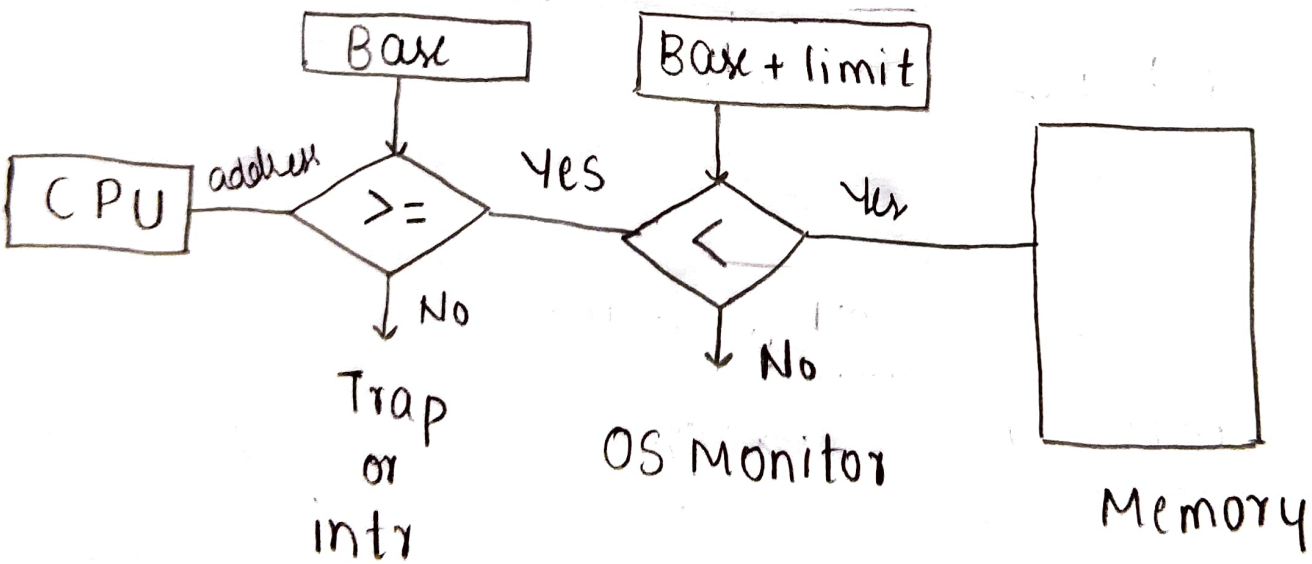
UNIT - IV

Memory Management



Hardware Address Protection with base and limit registers.

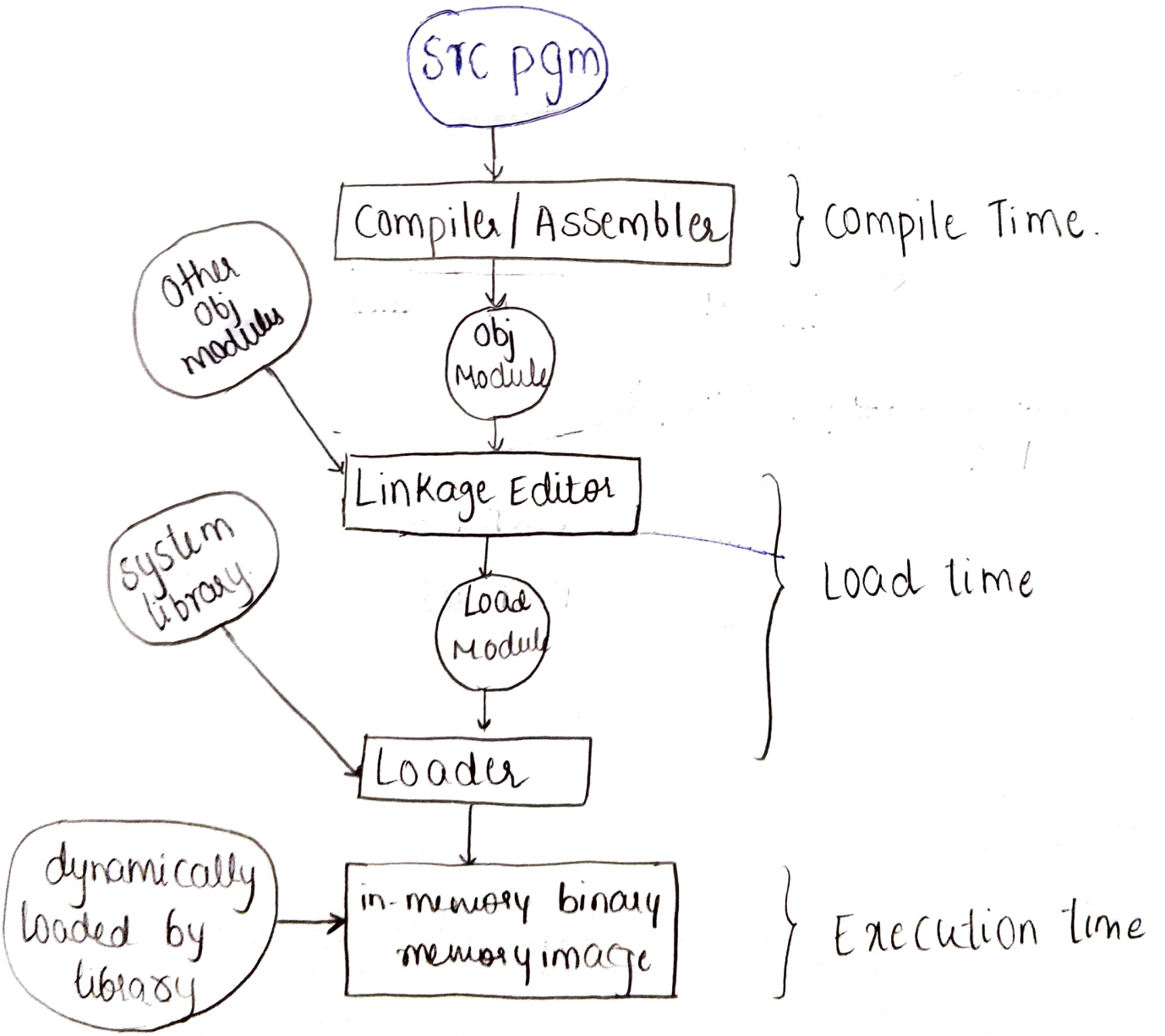


12-3-2020

* Address Binding

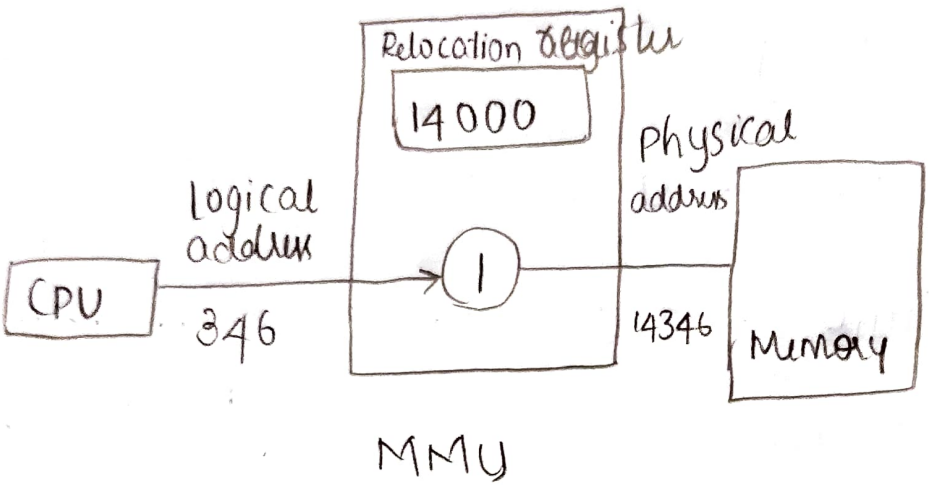
1. Compile Time - abs code
2. Load Time - relocatable code
3. Execution Time.

* Multistep processing of a user pgm.

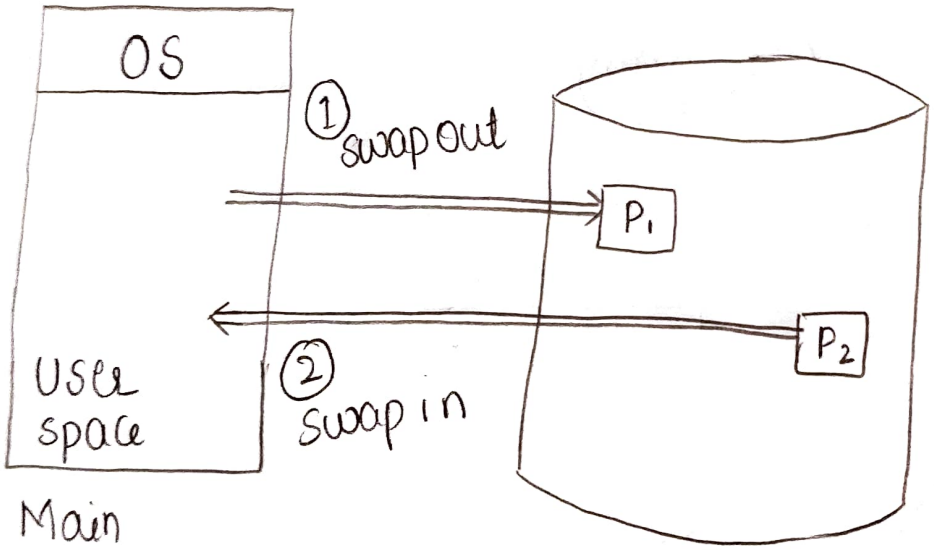


dynamic loading.

Dynamic Relocation using relocation ~~address~~ register

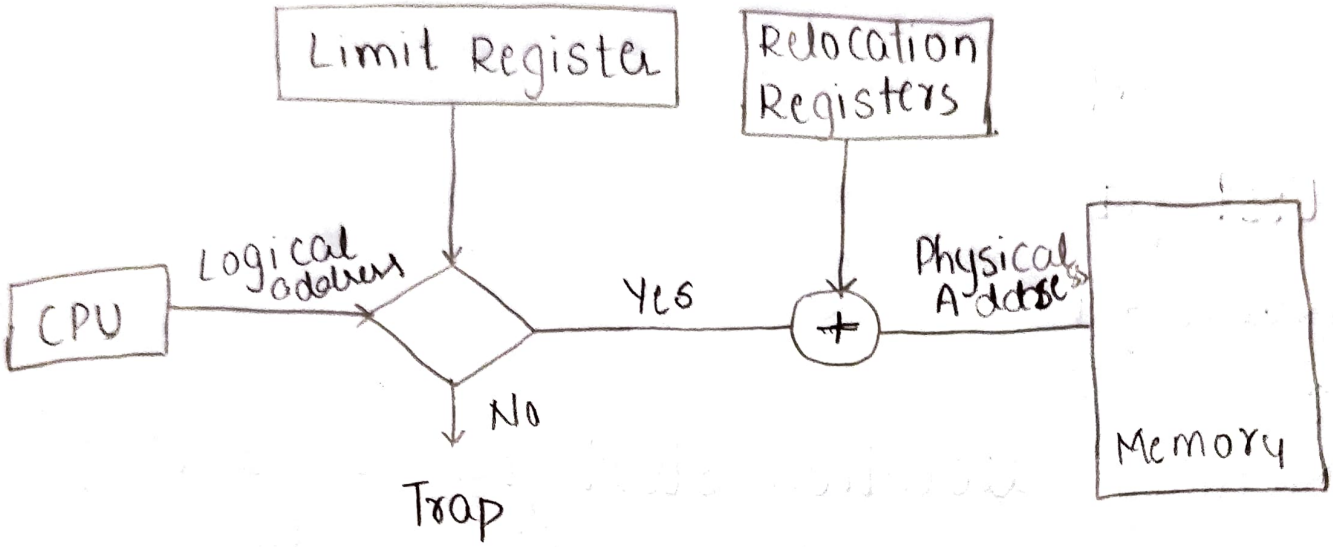


Swapping :



13-3-2020

Contiguous Memory Allocation.



Process - 10 MB size

Transfer rate - 40 MB

10000/40000 = 1/4 sec

= 250 ms.

Latency + 8 ms

258

Swap in/ Swapout x 2

516 ms

Fixed-size Partitions.

Methods to Allocate memory

1. First fit
2. Best fit
3. Worst fit.

↑

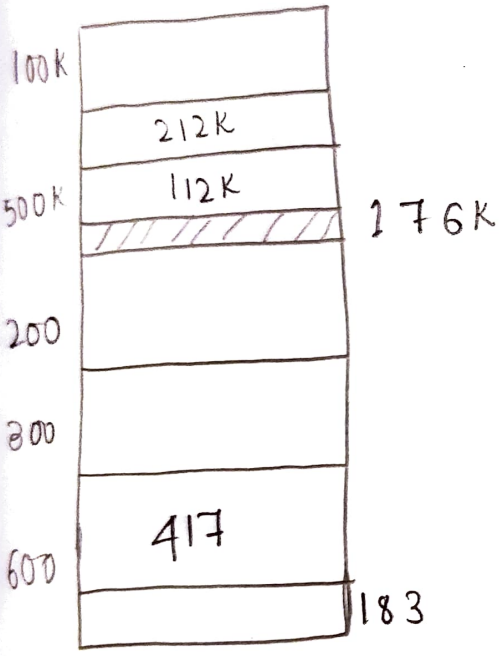
Memory allocation strategies used to free holes from a set of available holes

1. First fit : allocate the first hole i.e. big enough
2. Best fit : allocate the smallest hole i.e. big enough
3. Worst fit : allocate the largest hole; after searching the entire list of holes

Assume a system in which there are memory partitions or holes of 100K, 500K, 200K, 300K and 600K in order and there are processes to be allocated which are of the

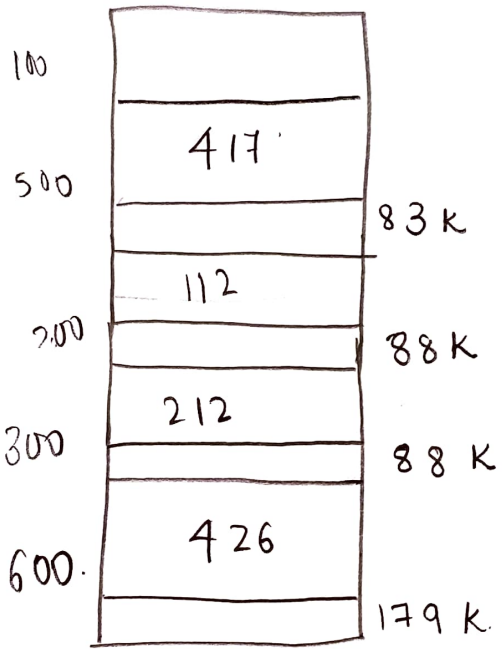
size 212 K, 417 K, 112 K and 426 K. Find the best strategy also the total amount of free memory space

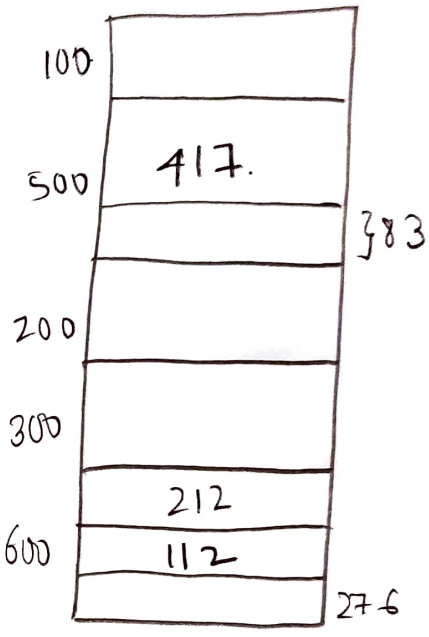
First fit



426 has to wait

Best





426 has to wait