18CS43-OS

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Mod 3 - Super Imp

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Q1. Banker's Algorithm ... is it safe or not?

Q2. What is dead lock? How it can be avoided? What are the necessary conditions for dead lock?. Explain the various recovery options.

Q3. What is Resource Allocation Graph?

Q4. Illustrate internal & External fragmentation problem.

Q5. Explain the structure of page table.

Q6 Explain various method of fragmentation with an example.

Soln 1: Banker's Algorithm is a resource allocation & deadlock checking algorithm. Practice its numerical problem.

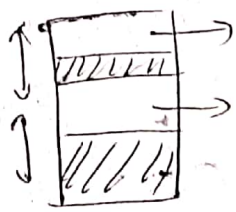
Soln 2: Deadlock: Two Process requesting the resource held by each other.

Avoided by: Eliminating four necessary conditions.

Necessary conditions: Mutual Exclusion, hold n wait, no preemption, circular wait.

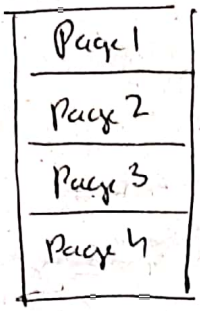
Overcoming: Killing Resource, Resource Preemption.

Soln 3: Resource Allocation Graph: It denotes the state of system in terms of process and resources.

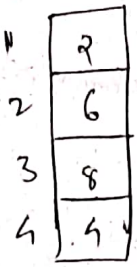
Soln 4: Internal fragmentation: 

External fragmentation: Variable allocation leaving spaces in between.

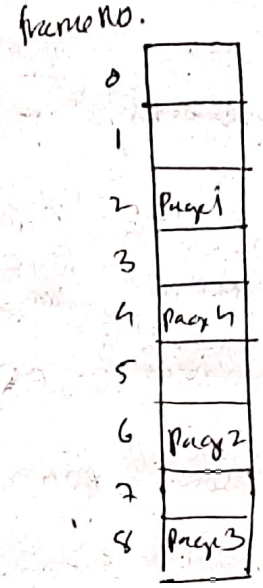
Page Table



Logical Memory



Page Table



Physical Memory

Soln6: -> Segmentation divides the user program and secondary memory into uneven-sized blocks known as segments.

-> It could be divided into two types:

Virtual Memory Segmentation :- Divided at diff. times

Simple Segmentation :- Divided at same time.