Lecture 34
BDU

classmate
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Long term scheduler → works with job queue new → ready

- A long-term scheduler determines which programs are admitted to the local system for processing. It selects processes from the queue and loads them into memory for execution.

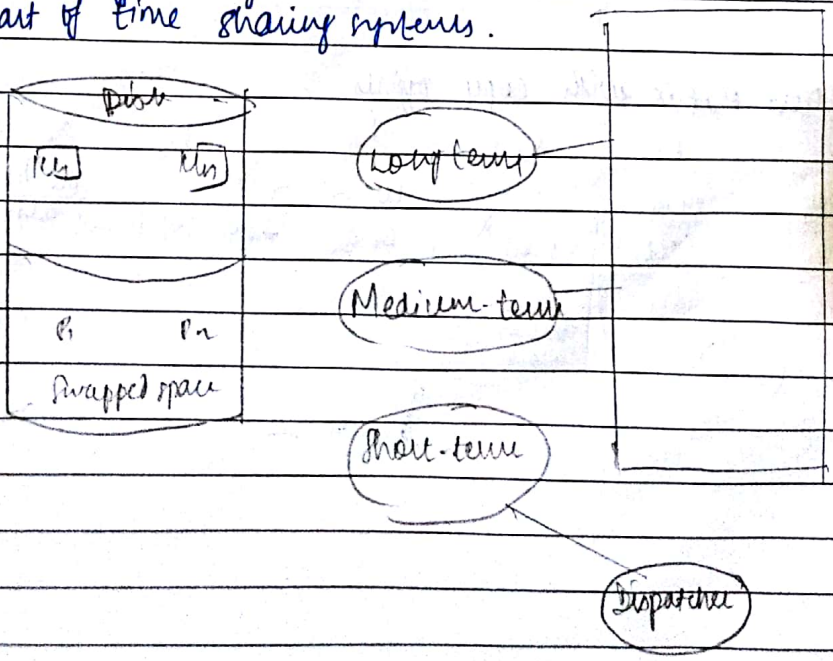
- It is also called a job scheduler.
- controls the degree of programming.
- Time sharing OSes don't have long term scheduler.

Short term scheduler → works with ready queue ready → execution

- It is also called CPU scheduler.
- Its main objective is to increase system performance in accordance with the chosen set of criteria.
- Usually faster than long term scheduler.

Medium term scheduler

- It is a part of swapping. It removes the processes from memory.
- Reduces degree of multiprogramming.
- In-charge of handling the swapped out process.
- When a process gets stuck in I/O, it gets rolled out to secondary storage.
- Part of time sharing systems.



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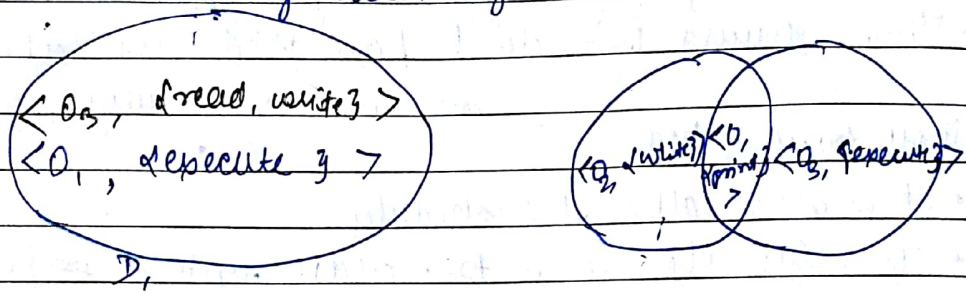
Protection

- Ensures that each object is accessed properly and only by processes that are allowed to do so.

- Access-right = <object-name, rights-set>
  where rights set is a subset of all valid operations that can be performed on the object.
- Domain = set of access rights



- Domain implementation → Access Matrix

object / domain	F1	F2	F3	printer
D1	read			
D2			execute	print
D3		write		
D4	write		read	

Access Matrix with 'copy' rights

	F1	F2	F3	D1	D2	D3
D1	execute		write*		switch	
D2	execute	read*	execute	→ can write here also		
D3	execute	read execute write				switch