

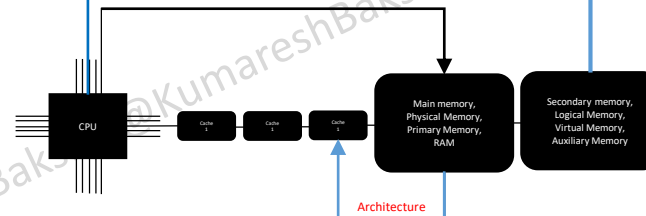
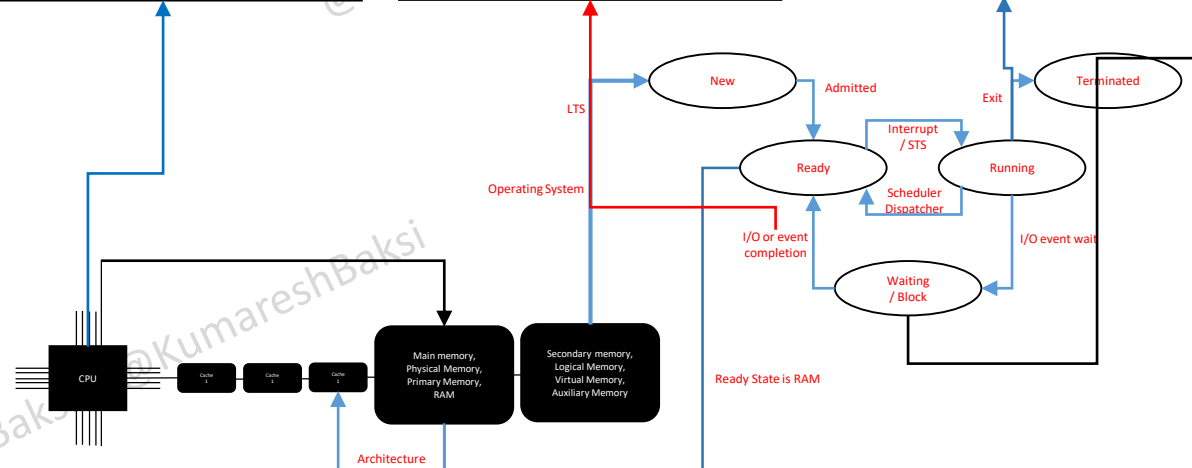
Paging
Contiguous & Non-Contiguous (Paging)
Translation Process
Size of Page
Multilevel Paging or Hierarchical Paging
Segmentation

Instruction Format
3,2,1,0 Address format
Direct Mode Addressing
Addressing Mode
Register Reference Instruction
RISC & CISC

I/O device Interface
Synchronous & Asynchronous
Control Hazards
DMA
Producer Consumer Problem

Pipeline Hazards
Structural Hazards
Control Hazards
Solution
Producer Consumer Problem

Process Synchronization
Race Condition
General Structure of process
Ordering
Deadlock
Producer Consumer Problem
Reader Writer Problem
Dining Philosopher
Type of semaphore
System Model
Necessary conditions for deadlock
Mutual exclusion
Hold & Wait
Circular Wait



Cache Mapping

Direct Mapping

Fully Associative Mapping

Set Associative Mapping

Type of scheduling

Pre-emptive

First come first serve(FCFS)(Non-pre-emptive)

Shortest job first(SJF) (Non pre-emptive) / Shortest remaining time first (SRTF) / Shortest next CPU burst (Pre-emptive)

Priority Scheduling

Round Robin

Idea's

Longest Job First, Longest Remaining Time First, Highest response ratio next, Multi level-queue scheduling, Multi level-feedback queue scheduling

$$\text{Tag directory size} = \text{Number of tags} \times \text{Tag size} = \text{Number of lines in cache} \times \text{Number of bits in tag}$$

Main Memory (Physical Address)		
Block Number	Block Offset	
Tag	Cache Line	Block Offset
Cache		

Main Memory (Physical Address)		
Block Number	Block Offset	
Tag = Block Number	Block Offset	
Cache Line	Block Offset	
Cache		

Main Memory (Physical Address)		
Block Number	Block Offset	
Tag	Set	Block Offset
Cache		