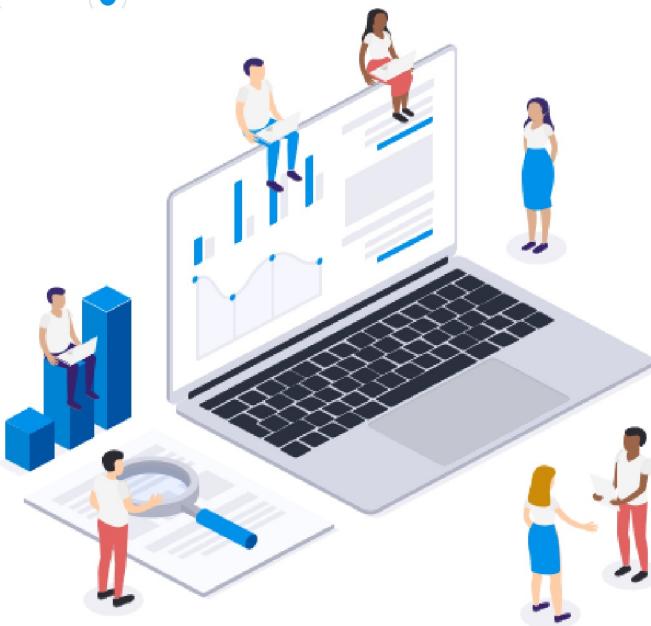


# Operating System: Process Management



By: Vishvadeep Gothi

# VISHVADEEP GOTHI SIR

AIR 19  
in GATE 2010



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MTech BITS Pilani (Data Sc.)**



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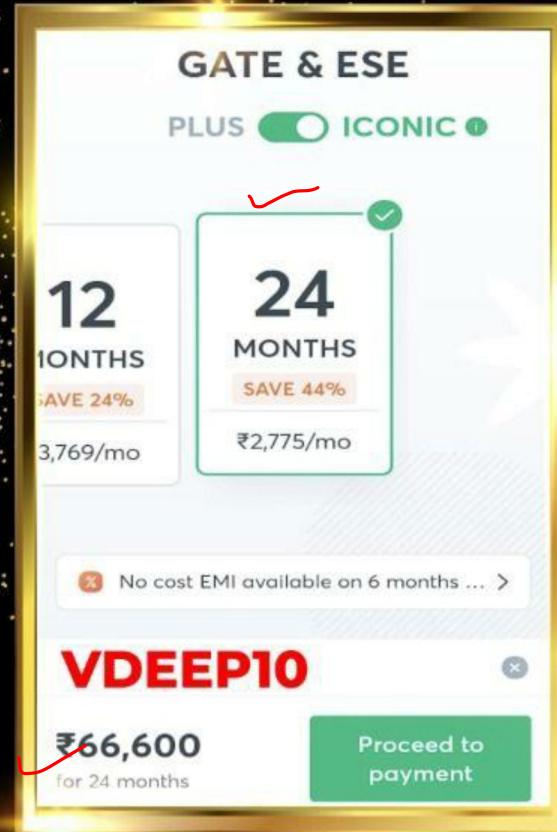
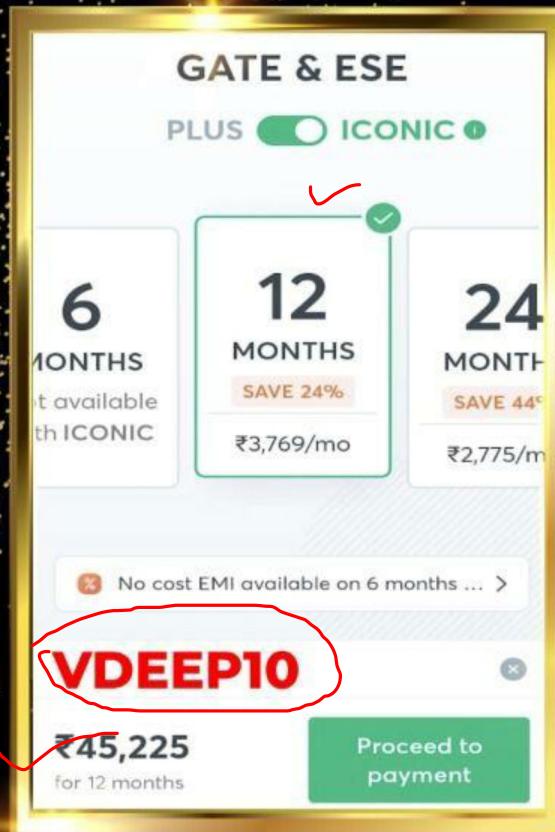
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# Process

→ Program under execution

Process = Program + runtime activity  
          ↓  
          (code)  
          instructions  
                        ↳ operands & other info<sup>n</sup>

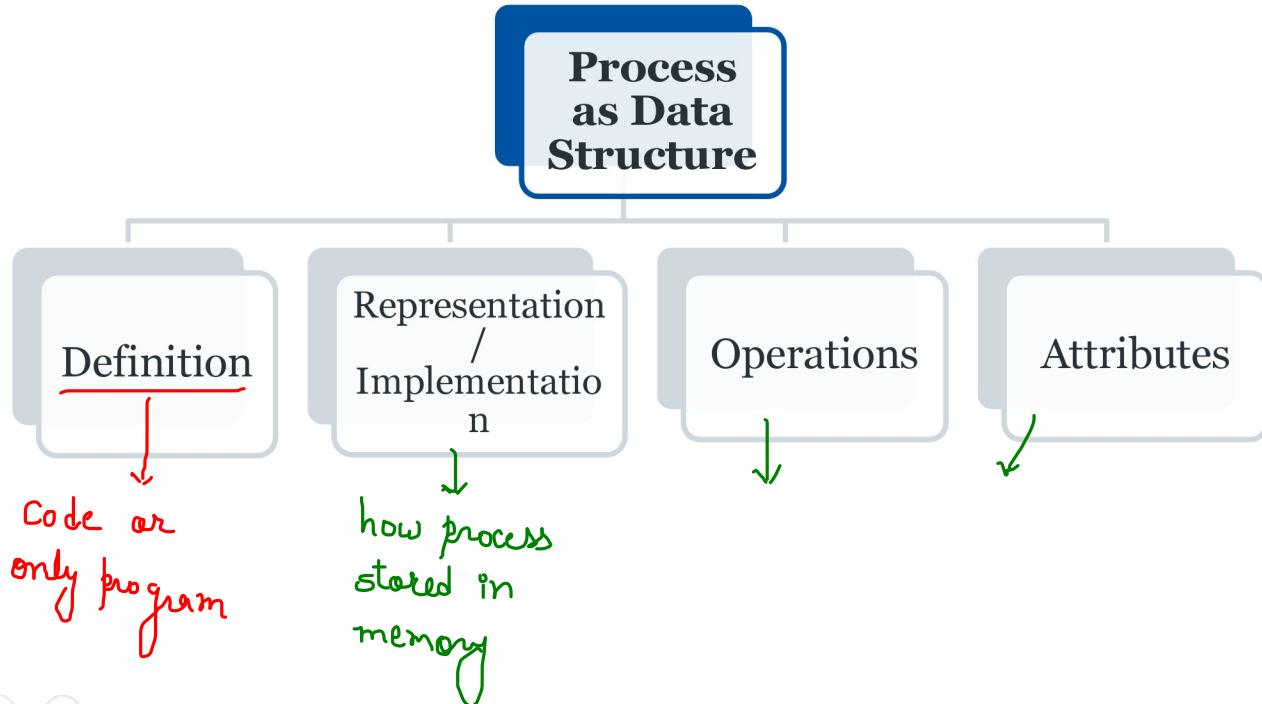
# Process

## Process:

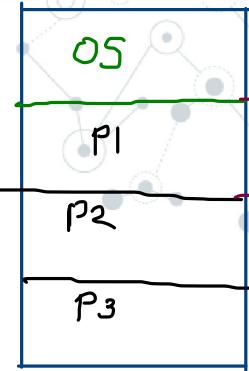
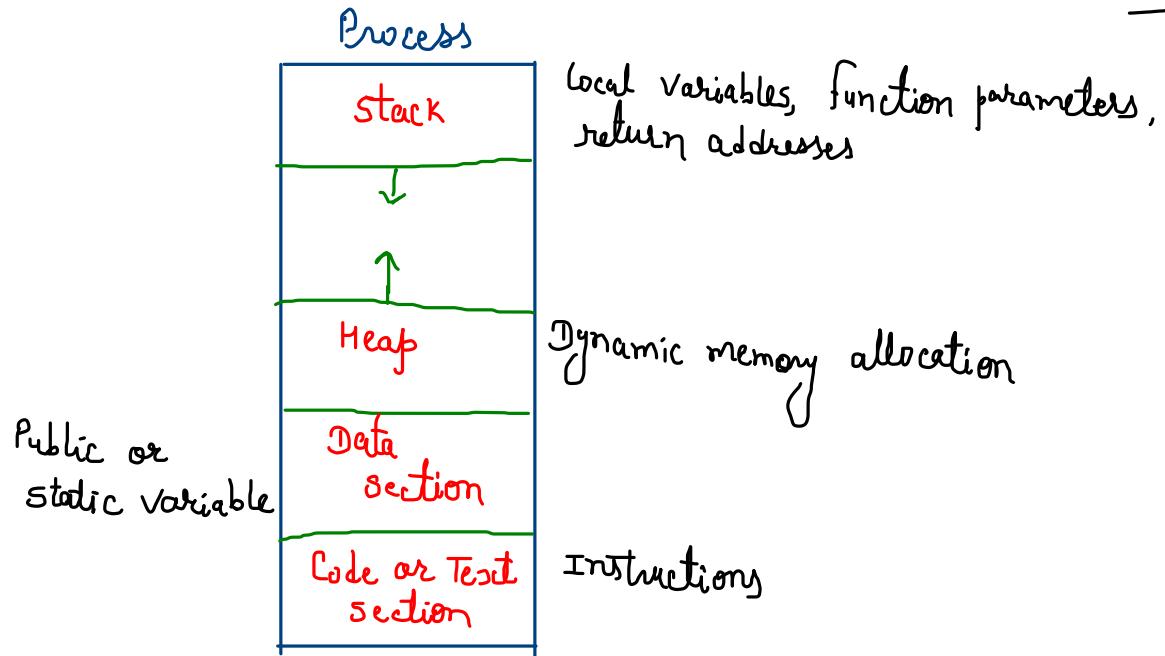
- ✓ → Program under execution
- ✓ → An instance of a program
- ✓ → Schedulable/Dispatchable unit (CPU)
- ✓ → Unit of execution (CPU)
- ✓ → Locus of control (OS)



# Process as Data Structure



# Representation of a Process

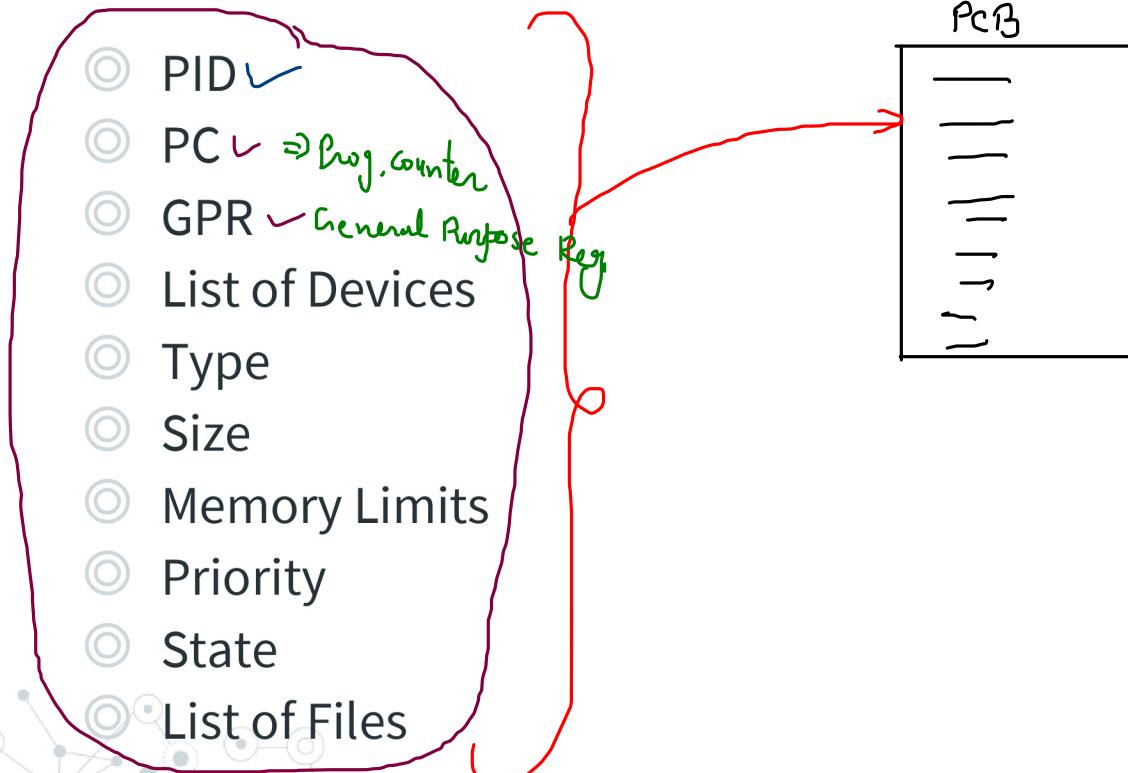


# Operations on a Process

- ✓ Create (Resource Allocation)
- ✓ Schedule, Run
- ✓ Wait/Block
- ✓ Suspend, Resume
- ✓ Terminate (Resource Deallocation)



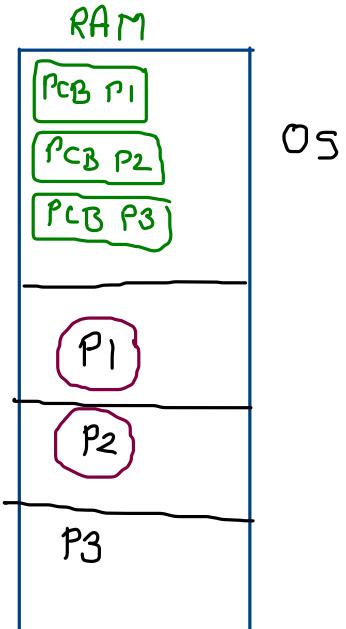
# Attributes of a Process

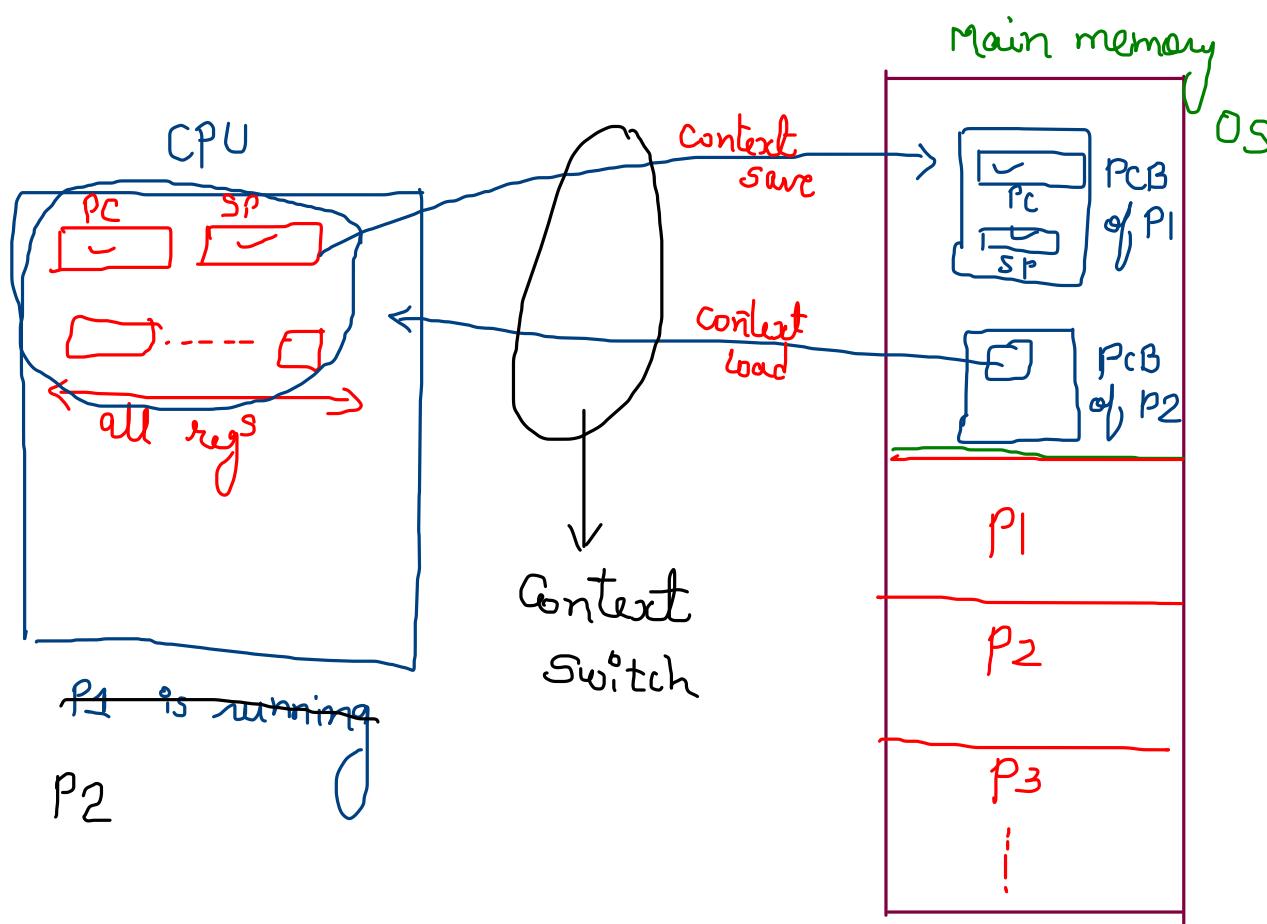


# PCB (Process Control Block)

- Also known as process descriptor

↓  
stored in OS area  
which is protected.





# Context

The content of PCB of a process are collectively known as ‘Context’ of that process



# Context Switch

- Context save
- Context load



stop a running process &  
run another process

⇒ Context switch is done by dispatcher.



# Question 1

While running, a process can access its PCB from main memory?

True/False

false



# Question 2

A process in the context of computing is:

- a) A set of instructions to be executed on a computer
- b) A program in execution
- c) A piece of hardware that executes a set of instructions
- d) The main procedure of a program

*program*

# Question 3

Which technique was introduced because a single job could not keep both CPU and IO devices busy?

- a) Real Time
- b) Spooling
- c) Preemptive Scheduling
- d) Multiprogramming

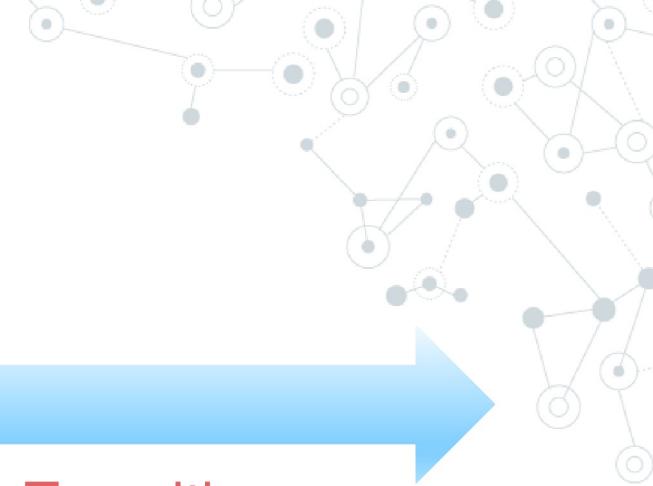


# Next Class

✓ Process States

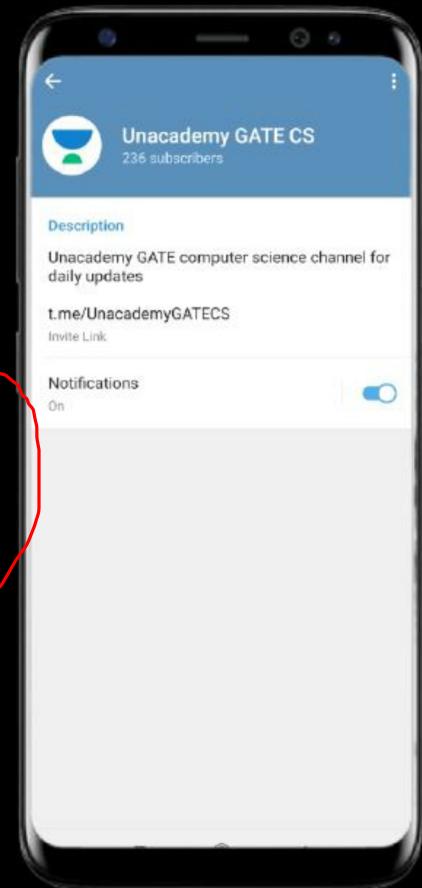


✓ Process State Transition





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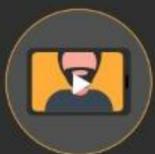
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