# PROCESS TABLE

Multiprogramming OS needs to keep track of all processes.

a) Process table is a **kernel data structure** that **describes the state of process.**
b) It holds the **information about the processes** that are **currently handled by the OS**.
c) **Each entry (row)** in process table **represents a process** in the system
d) The **table is updated** every time a process is **created / terminated / changes it's state**

| PID | PPID | State | PC | Register | Priority | Memory Limits | List of Open Files | I/O Status | ... |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

***PID***

Process ID, stores the ID of the process

***PPID***

Parent Process ID, Stores the ID of the parent process from which it's created.

***STATE***

Stores the current state of the process

***PC***

Stores the last value of the Program counter

***Register***

Registers that this process has used / using

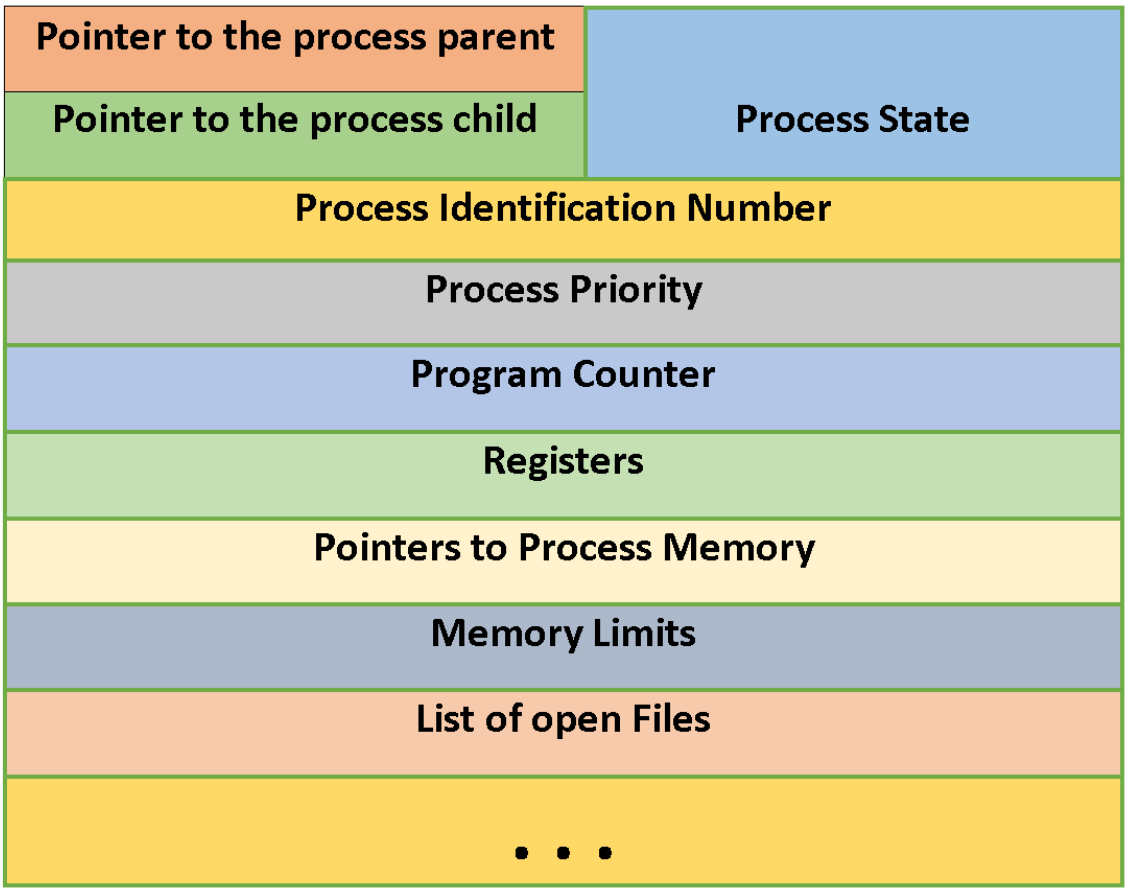
***Priority***

States the priority of the process (which process would run before which one)

Etc….

# PROCESS CONTROL BLOCK

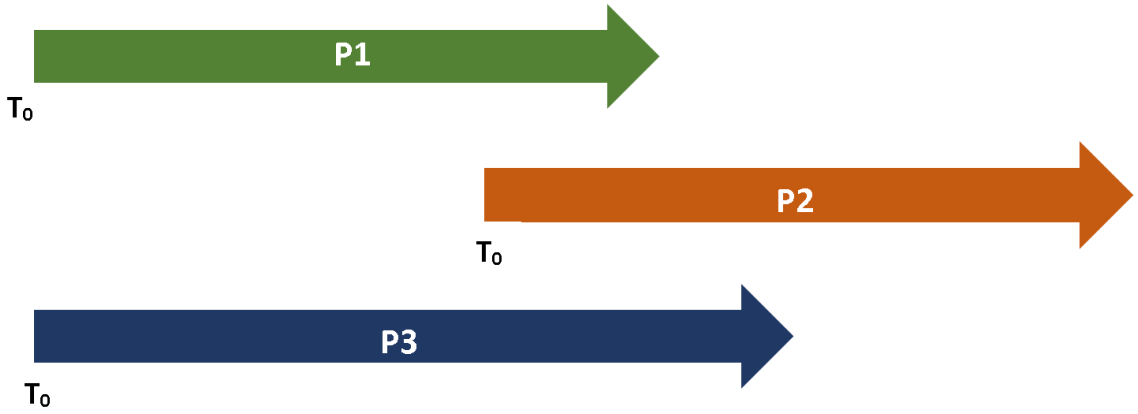
Each row of process table is called process control block




The PCB is a central store of information that allows the operating system to locate all the key information about the process. The operating system uses this information and performs the **operations in the process**. The operations include suspending a process, resuming a process, change the process priority, dispatch a process, name the process and so on.

# Concurrent Process

Two processes are 'serial' if the execution of one must be completed before the execution of other starts. If the two processes said to be concurrent, they are not serial, and their execution can overlap in time.




Concurrent Process

Here the example of a concurrent process in an operating system. Let's assume there are three process P1, P2 and P3 and execution time is T. According to the figure, the execution time of P1, P2, and P3 overlapped, so these called **concurrent process model**.

***Context Switching***