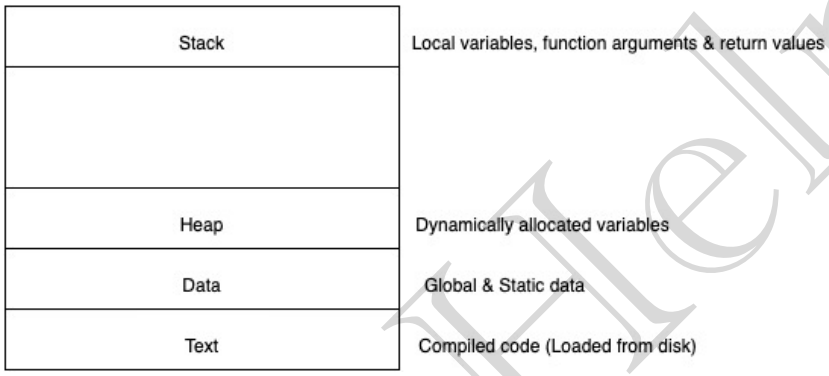
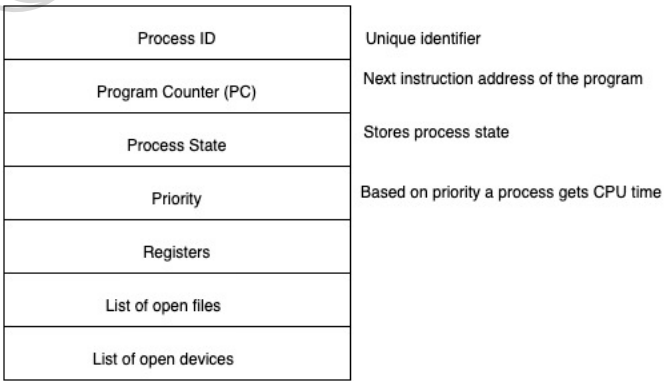
Lec-9: Introduction to Process

1. What is a program? Compiled code, that is ready to execute.
2. What is a process? Program under execution.
3. How OS creates a process? Converting program into a process.
   STEPS:
   a. Load the program & static data into memory.
   b. Allocate runtime stack.
   c. Heap memory allocation.
   d. IO tasks.
   e. OS handoffs control to main ().
4. **Architecture** of process:



5. **Attributes** of process:
   a. Feature that allows identifying a process uniquely.
   b. Process table
      i. All processes are being tracked by OS using a table like data structure.
      ii. Each entry in that table is process control block (PCB).
   c. PCB: Stores info/attributes of a process.
      i. Data structure used for each process, that stores information of a process such as process id, program counter, process state, priority etc.
6. **PCB structure**:



Registers in the PCB, it is a data structure. When a processes is running and it's time slice expires, the current value of process specific registers would be stored in the PCB and the process would be swapped out. When the process is scheduled to be run, the register values is read from the PCB and written to the CPU registers. This is the main purpose of the registers in the PCB.