① Explain the Shared memory.

Ans:- Shared memory allows two or more processes to share a given region of memory. This is the fastest form of IPC, because the data does not need to be copied between the client and the server. Access to this shared memory is as fast as accessing a process's non-shared memory, and it does not require a system call or entry to the kernel. It also avoids copying data unnecessarily.

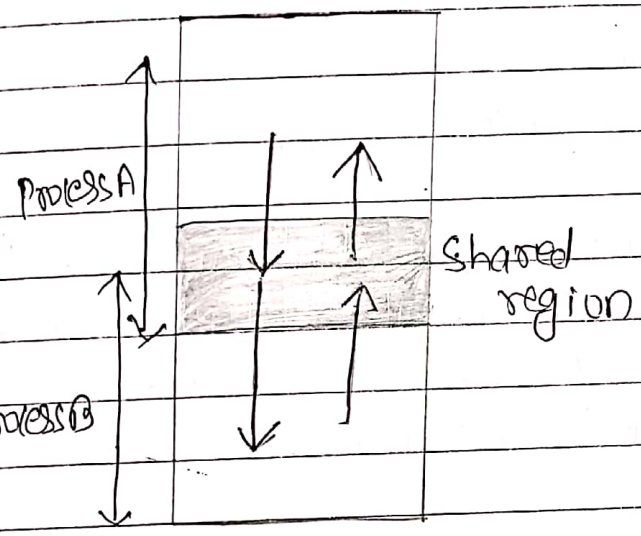


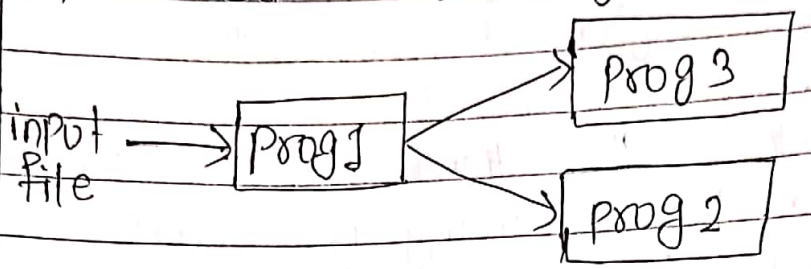
Fig:- concept of shared memory

If the process writes to a shared memory location, the new contents of that location are immediately visible to all processes sharing the region

② Explain client server connecting using stream pipes.

Ans:- FIFOs can be used to duplicate an output stream in series of shell commands. This prevents writing the data to an intermediate disk file. Consider a produre that needs to process a filtered

input stream twice. Fig show below:-



- With a FIFO and the unix program tee(1), we can accomplish this procedure without using a temporary file.

```
mkfifo fifo1
prog 3 < fifo1 &
prog 1 < infile | tee fifo1 | prog 2
```

- We can create the FIFO and then start Prog 3 in the background, reading from the FIFO. We then start prog1 and use tee to send its input to both the FIFO and prog 2.

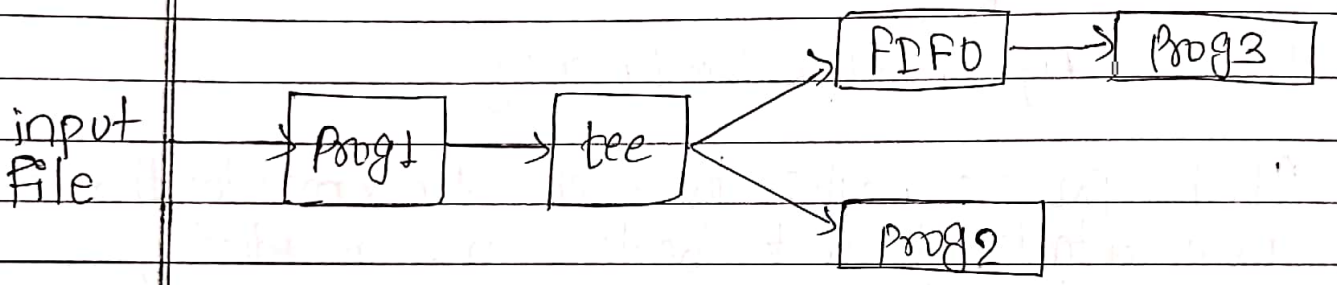


Fig:- using FIFO and tee to send stream