

## Question 2

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### Running Instructions:

- There are 3 folders in the directory
- Each folder has code corresponding to method name of the folder
- Each folder has a makefile so simple go to that directory and run make and you'll get 2 object files
- Run those object files using ./p1 and ./p2 in different terminals to see the output

### FIFO

- P1\_FIFO.c and P2\_FIFO.c use functions from helpers.c to generate random string and send and receive string via FIFO
- FIFO is started using mkfifo()
- Random String are generated in P1\_FIFO.c and sent to P2\_FIFO.c via this FIFO pipeline
- String are appended with the index and sent the P2 reads then and sends back confirmations
- Finally we end using unlink()

### Queue

- P1\_Queue.c and P2\_Queue.c use functions from helpers.c to generate random string and send and receive string via Queue
- After Queue is created messages are sent using similar strings as FIFO using msgsnd and received using msgrcv
- String and Indexes are printed on client and server side
- Due to some reasons for permission it might be needed to enter sudo mode in both terminals before running this part

### Sockets

- P1\_Sockets.c and P2\_Sockets.c use functions from helpers.c to generate random string and send and receive string via Sockets
- After Socket is created messages are sent using similar strings as FIFO using send and read functions present in SendandReadSignals in helper.c from P1\_Sockets.c
- The functioning differs in mechanism used but the process is the same as sending strings with appended indices and receiving signals back and printing on both sides

Helper functions have been created to enhance code readability

String is generated by picking random indices from a string which has all lowercase and uppercase characters and the function accepts a size which is used to generate string of a fixed size also an index is passed which is appended to the string by converting it to a string