# CN Assignments – Raw Sockets 15-3-2022

## 1. Passport Issuer

**Passport Issuer**: A process S opens 1 raw socket (rsfd) ,1 well known sfd(TCP) , 3 usfds (Unix Domain).And there exists 3 Separate Processes ( A,B,C) which are in the same system of process S are connected to process S through 3 usfds (Unix Domain).Now In a Separate System Clients(c1,c2,c3) exists which are connected to raw socket of Process S. Now the process S will pass the rsfd(raw socket fd) to Process A, Process A will receive rsfd(raw socket fd) and it will broadcast all the documents names it requires to authorize and passes back rsfd to S, now S will pass rsfd to process B and Process B will broadcast all the document names it requires using rsfd and passes back rsfd to S. Similarly to Process C. After this if a Client wants to go through verification, it will connect to well known sfd in S. Process S will pass nsfd to A, and A only verifies that Client and sends its opinion to S. S only has to convey the result to the Client. Similar case with B and C.

Implement all the processes in this scenario.

## 2. NIT - Cricket

**NIT-Cricket:** Assume that there is one batsman, one bowler, one umpire and four fielders in the NIT-Cricket ground. The bowler sends a fd (i.e. a file descriptor represents a ball) to the batsman and notifies the umpire. (i.e. has bowled the ball). If the batsman doesn't reply within a specified time, he is declared as out, else, the batsman reads data from the file (fd), which contains two values – (speed, spin). Then he uses a function which takes these two numbers and generates a random number 'r' between 0 and 40. The batsman announces this number 'r'. (i.e. has hit the ball). The fielders are bearing(wearing) numbers as 10, 20, 30, 40. If the number 'r' is a multiple of either 4 or 6, the batsman gets runs as 4(boundary) or 6(sixer). Otherwise, the fielder with the number closest to 'r', informs the umpire that he got 'catch', then, umpire declares that the batsman is out. If the umpire has not been reported by any fielder, he announces the runs, as mentioned above. The fd (i.e. ball) is to be returned to the umpire and then to the bowler for next bowling. Assume that batsman, bowler and umpire are in one same system and fielders are in different systems.
Write essential code for all different processes of the above cricket scenario.

(As the batsman is from CSE, NITW, if he hits, it would be either a boundary(4) or a sixer(6), because he is playing single handed on his OWN !!!)

**Odd Roll numbers have to do Question 1**

**Even Roll Numbers have to do Question 2**


**Submission link will be sent mostly from 11 PM.**

**For similar codes Submission time is specially noted.**