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SE COMPS A-3

OPERATING SYSTEMS

EXPERIMENT - 3

CODE & OUTPUT

AIM: Building multi-threaded and multi-process applications

CODE:

```
class TicketCounter {
    private int availableSeats;

    TicketCounter(int availableSeats){
        this.availableSeats = availableSeats;
    }

    public synchronized void bookTicket(String pname, int numberOfSeats)
    {
        System.out.println("Welcome to XYZ bus Service");
        System.out.println("No. of seats available : "+availableSeats);
        if ((availableSeats >= numberOfSeats) && (numberOfSeats > 0)) {
            System.out.println("CONGRATS Mr./Ms. "+pname+" The number of
seats requested (" +numberOfSeats + " seats) are BOOKED");
            availableSeats = availableSeats- numberOfSeats;
        }
        else System.out.println("SORRY Mr./Ms. "+pname+" The number of
seats requested (" +numberOfSeats + " seats) are not available");
        System.out.println();
    }
}

class TicketBookingThread extends Thread {

    private TicketCounter ticketCounter;
```

```

        private String passengerName;
        private int noOfSeatsToBook;

        public TicketBookingThread(TicketCounter ticketCounter,String
passengerName, int noOfSeatsToBook) {
            this.ticketCounter = ticketCounter;
            this.passengerName = passengerName;
            this.noOfSeatsToBook = noOfSeatsToBook;
        }

        public void run() {
            ticketCounter.bookTicket(passengerName, noOfSeatsToBook);
        }
    }

    public class Multithreading {

        public static void main(String[] args) {
            TicketCounter ticketCounter = new TicketCounter(6);
            TicketBookingThread t1 = new
TicketBookingThread(ticketCounter,"Person1",2);
            TicketBookingThread t2 = new
TicketBookingThread(ticketCounter,"Person2",3);
            TicketBookingThread t3 = new TicketBookingThread(ticketCounter,
"Person3", 2);

            t1.start();
            t2.start();
            t3.start();
        }
    }

```

OUTPUT:

```

Welcome to XYZ bus Service
No. of seats available : 6
CONGRATS Mr./Ms. Person1 The number of seats requested (2 seats) are BOOKED

Welcome to XYZ bus Service
No. of seats available : 4
CONGRATS Mr./Ms. Person2 The number of seats requested (3 seats) are BOOKED

Welcome to XYZ bus Service
No. of seats available : 1
SORRY Mr./Ms. Person3 The number of seats requested (2 seats) are not available

```