Activity - 3

Write a synchronization program for ticket booking process in theatre. Consider three counters for booking and have num_tickets has a common variable holding available tickets. When counter1 is using it others should not access to variable num_tickets.

Code:

```java
1    package lab_assignments;
2
3    class Ticket_counter {
4
5      synchronized public void Printing() {
6          Counter.count++;
7          System.out.println(Thread.currentThread().getName() + "  ticket_no : " + (Counter.count-1));
8      }
9
10     public void booking() {  // ctustomer is printing (i.e actual booking) the ticket and then sleeping
       while (Counter.count<=50) {  Printing() ;  try{ Thread.sleep(1000);}  catch (Exception e) { };    }
12     }
13
14   }
15
16   class Counter extends Thread {
17     Ticket_counter obj1 = new Ticket_counter();
18     public static int count=1;
19
20     Counter(String name)   {  super(name);     }
       public void run()        {  obj1.booking();    }
22   }
23
24   public class Assignment_3_Synchronisation {
25     public static void main(String args[]) {
       Ticket_counter obj1 = new Ticket_counter();
27
28        Counter th1 = new Counter("Counter-1");
29        Counter th2 = new Counter("Counter-2");
30        Counter th3 = new Counter("Counter-3");
31
32        // At a time all the coustomers entering the ticket counter
33        th1.start();        th2.start();       th3.start();
34
          try { th1.join();    th2.join();   th3.join(); } catch(InterruptedException e) {} ;
36     }
37   }
```

Output:

Total number of tickets → 5

```
Updating property file: F:\2) Second Year 2020-2021\WinterSemester-2021\CSI2008 Programming in JAVA\Lab_assignments\build\built-jar.properties
Compiling 1 source file to F:\2) Second Year 2020-2021\WinterSemester-2021\CSI2008 Programming in JAVA\Lab_assignments\build\classes
compile-single:
run-single:
Counter-2    ticket_no : 2
Counter-1    ticket_no : 1
Counter-3    ticket_no : 3
Counter-2    ticket_no : 4
Counter-1    ticket_no : 4
Counter-3    ticket_no : 5
Counter-2    ticket_no : 6
Counter-3    ticket_no : 7
Counter-1    ticket_no : 8
Counter-2    ticket_no : 9
Counter-3    ticket_no : 10
Counter-1    ticket_no : 11
Counter-3    ticket_no : 12
Counter-2    ticket_no : 13
Counter-1    ticket_no : 14
Counter-3    ticket_no : 15
Counter-2    ticket_no : 16
Counter-1    ticket_no : 17
Counter-3    ticket_no : 18
Counter-2    ticket_no : 19
Counter-1    ticket_no : 20
Counter-3    ticket_no : 21
Counter-2    ticket_no : 22
Counter-1    ticket_no : 23
Counter-3    ticket_no : 24
Counter-2    ticket_no : 25
Counter-1    ticket_no : 26
Counter-3    ticket_no : 27
Counter-2    ticket_no : 28
Counter-1    ticket_no : 29
Counter-3    ticket_no : 30
Counter-2    ticket_no : 31
Counter-1    ticket_no : 32
Counter-3    ticket_no : 33
Counter-2    ticket_no : 34
Counter-1    ticket_no : 35
Counter-3    ticket_no : 36
Counter-2    ticket_no : 37
Counter-1    ticket_no : 38
Counter-3    ticket_no : 39
Counter-2    ticket_no : 40
Counter-1    ticket_no : 41
Counter-3    ticket_no : 42
Counter-2    ticket_no : 43
Counter-1    ticket_no : 44
Counter-3    ticket_no : 45
Counter-2    ticket_no : 46
Counter-1    ticket_no : 47
Counter-3    ticket_no : 48
Counter-2    ticket_no : 49
Counter-1    ticket_no : 50
BUILD SUCCESSFUL (total time: 17 seconds)
```