Evaluation C2 : SB101 - B18

Note

There are a total of 3 questions.
All the questions are compulsory.
Duration of the test is **2 hours**
Mode of Submission: Github Link
Don’t seek help from any person/resource during the test.
Marks Distribution is as follows:

Question No:	Marks
1	4 marks
2	4 marks
3	2 marks

Question 1

Create a TicketCounter class which has following field and method:

- availableSeats = 3;
- void bookSeat(String name, int numberOfSeats)

bookSeat() is used to check availability of seats and book the seats. If there is no sufficient seat then throw NoSeatAvailableException else update the availableSeats and print the number of seats booked.

Create a Thread class TicketBooking which has following field:

- ticketCounter : TicketCounter
- passengerName : String
- noOfSeatsToBook : int

Create a Main class with the main method and create one TicketCounter object and three TicketBooking threads then start all the threads.

Question 2

2A) Explain ThreadPool Executor in java with an Example.

2B) Write a program that will result in a deadlock. How will you fix deadlock in Java show with examples?

Question 3

Create a Bean class of students with attributes RollNo, Name, marks (maximum marks 500)
In the main runner class make the list of students add student to it

Using java stream and lambda function sort them according to their RollNo. And filter out the students getting marks below 250 out of 500. And display them.

Sample list of students:
Student [RollNo=12, marks=495, name=Name1]
Student [RollNo=13, marks=230, name=Name2]
Student [RollNo=10, marks=210, name=Name5]
Student [RollNo=6, marks=400, name=Name3]
Student [RollNo=2, marks=352, name=Name4]

Sample OutPut:
Student [RollNo=10, marks=210, name=Name5]
Student [RollNo=13, marks=230, name=Name2]