Coding Assignment - Android/Java

A restaurant named "***Lean startup Bar***" has only 4 items on its menu, and each item has a certain preparation time.

Item id	Menu Item	Preparation time (in mins)
1	Sandwich	5
2	Coffee	3
3	Cereal	3
4	Pizza	7

The restaurant has waiters and chefs in their staff. Now the restaurant wants to develop an application to receive orders and these orders are processed in a first-come-first-serve manner. The LeanStartupBar application should have a Waiter Class which receives the orders and a Chef class which processes the orders and outputs to a file.

The program accepts orders from the input console while outputting an order acknowledgement number which is increased sequentially and the time when the order was placed.

Each order is assigned to an available waiter who logs the orderNumber and takes it to the kitchen, and leaves it on the In-counter and whenever a chef becomes available, the chefs picks up the order and starts cooking.

The Chef will cook for the given preparation time and once he finishes i.e. the preparation time elapses an output is sent to a file "OrderProcessed.txt" in the format shown below.

Please Note

1.   The Waiters and the Chefs should run in their own separate threads,

and the choice of communication between these threads is left to you.

2. Take the number of chefs and waiters that the restaurant employs as options from the command line.

3. The outputfile "OrderProcessed.txt" should be created in the current directory where the application is being run.

4. It's suggested that the you use the 1.6 JDK version

5. YOU MUST USE ONLY THE JDK Libraries.

6. DO NOT USE ANY OTHER EXTERNAL LIBRARIES/FRAMEWORKS like Apache Utils or Spring.

7. ALL the TIMES displayed should be the current system time.

8. You must send us source code, instructions on how to compile the source to an executable jar, and how to run the executable jar.

9. Please email rahul@primaseller.com or reach out to Rahul on +91-9482592665 in case you have any doubts/clarifications.

10. Please let us know how much time you took to solve the assignment from start to end.

Sample Runs: Run #1 For example if we first order a Cereal and then a Coffee Input >> `java-jar LeanStartupBar.jar --waiters=2 –chefs=2 Enteritemid:3`

`OrderNumber:ORD1 for Cereal has been placed at 2:00:21pm with Waiter 2`

`Enteritemid:2`

`OrderNumber:ORD2 for Coffee has been placed at 2:02:53pm with Waiter 1`

Output (OrderProcessed.txt)

`Chef1:Picked up ORD1 at 2:00:30pm from Waiter 2`

```
Chef1:CookingCereal...
Chef1:Finished making Cereal for ORD1 at 2:03:30pm
Chef1:Pickedup ORD2 at 2:03:32pm from Waiter 1
Chef1:CookingCoffee...
 Chef1:Finished making Coffee for ORD2 at 2:06:32pm
```

Run#2 For example if we first order a Cereal,Coffee and 10 mins later orders a sandwich Input >> `java -jar LeanStartupBar.jar --waiters=1 --chefs==1`

`Enteritemid:3`

`OrderNumber:ORD1 for Cereal has been placed at 2:00:21pm with waiter 1`

`Enteritemid:2`

`OrderNumber:ORD2 for Coffee has been placed at 2:02:53pm with Waiter 1`

`Enteritemid:1`

`OrderNumber:ORD3 for Sandwich has been placed at 2:12:58pm with Waiter 1`

Output (OrderProcessed.txt)

```
Chef1:Picked up ORD1 at 2:00:30pm from Waiter 1
Chef1: CookingCereal...
Chef1: Finished making Cereal for ORD1 at 2:03:30pm Chef1:
Picked up ORD2 at
2:03:32pm from Waiter 1
Chef1:CookingCoffee...
Chef1: Finished making Coffee for ORD2 at 2:06:34pm Chef1:
Picked up ORD3 at
2:13:01pm from Waiter 1
Chef1: CookingSandwich...
Chef1: Finished making Sandwich for ORD3 at 2:18:32pm
```