OBJECT ORIENTED PROGRAMMING - LAB 12

28th November 2023

Problem Statement

Bitsians are starting a new startup called BIeaTS (pronounced as beats). BIeaTS seamlessly integrates reservation management, order processing, and kitchen coordination to provide a holistic and efficient approach to restaurant operations. You are tasked with developing an API backend that is managed using Object Oriented code in Java. For now, you only have to develop some simple classes and methods as a basic outline. The complete Class Diagram is provided as a seperate image. But first read the next section.

How to proceed with this Lab?

This lab exercise is different. You have to make all the java files from scratch! We have still given a Driver which contains a simulation of the complete restaurant booking and management. **You can only run it after completing all classes.** We have given a docs folder containing the **javadocs** for the complete code! Go ahead and open **index.html** in a browser. You will see a nice webpage describing all the classes, interfaces, methods and fields. Sweet!

This lab will be automatically evaluated and so here are some things to keep in mind to get maximum credit:

1. First and foremost, see all the java files you need to make (they should be 10 in number). Create them.
2. Now write down all the fields and methods (only signatures) of **ALL** class files. **Don't implement the methods yet!** Just add a dummy *return null* in methods that need to return something.
3. Now try compiling the Driver. If the Driver compiles (**javac**) without any errors chances are that you have designed everything correctly.
4. Now go on to implementing the methods.

IMPORTANT !!!!
More than 50% of the credit is for following the Class Diagram only (even if the methods don't do what they are supposed to but compile). Since this lab is automatically evaluated, **compilation error in one file can mean that you don't get marks for other files also** (since they are inter-dependent on each other). Additionally, take care that int is not the same as Integer, addItem is not the same as additem! Make sure that you follow the naming convention (**camelCase**) without spelling errors else you can loose credit!

Correct Output for Driver Simulation

```
TIME     ACTION
[0]      peter got a table and PLACED ORDER
[0]      food Queue:     [risoto, strawberry pancakes, risoto]
[0]      beverage Queue: []
[1]      cook PREPARING risoto
[1]      cook PREPARING strawberry pancakes
[1]      cook PREPARING risoto
[150]    aditya got a table and PLACED ORDER
[150]    food Queue:     [lasagne]
[150]    beverage Queue: [margarita, margarita, moijito]
[150]    cook PREPARING lasagne
[150]    bartender PREPARING margarita
[150]    bartender PREPARING margarita
[161]    bartender PREPARING moijito
[200]    dhruv got a table and PLACED ORDER
[200]    food Queue:     [fries, fries]
[200]    beverage Queue: [old cuban, margarita, pina colada, pina colada]
[200]    cook PREPARING fries
[200]    cook PREPARING fries
[200]    bartender PREPARING old cuban
[200]    bartender PREPARING margarita
[209]    bartender PREPARING pina colada
[210]    karan LEFT due to NO VACANT table
[211]    bartender PREPARING pina colada
[250]    aditya LEFT table and PAID 1350
[280]    peter LEFT table and PAID 1200
[300]    dhruv LEFT table and PAID 1650
[320]    olive got a table and PLACED ORDER
[320]    food Queue:     [risoto, chocolate mousse]
[320]    beverage Queue: []
[320]    cook PREPARING risoto
[320]    cook PREPARING chocolate mousse
[350]    olive LEFT table and PAID 850

Tier Status:
peter    1
aditya   1
dhruv    2
karan    0
olive    0
```

Submission Guidelines