OOSD 3 Assignment 03 [30%]

Due Date: 3 April @ 11.59pm

Q1. Develop a program that models a simple restaurant with one chef and one waiter. Your program should have the following classes:
- A class *Restaurant*
- A class *Chef* (extends Thread)
- A class *Waiter (*extends Thread)
- A class *Order*

The restaurant class will need a collection such as an ArrayList to store *orders*. The waiter picks up an order from the collection and passes it to the Chef and starts the chef's thread. Assume the preparation of a meal takes a fixed amount of time and when this elapses the chef's thread notifies the waiter, using *notify()*. While the meal is in preparation, the waiter waits for the meal, using *wait().*
Note, wait() and notify() must be called within synchronised methods or blocks.

Hint: Have one thread for the waiter that continues to run until all orders in the collection have been processed and have one other thread for the chef that continues to run until all orders in the collected have been prepared.

Q2. Create a GUI that will allow users to enter a dish of choice, which will be stored as an order object in the restaurant's collection and then processed. Once the dish is prepared, the GUI will inform the user. Note, question 2 will use the code from question 1.

Submission instructions
Submit your solution to question 2 (all java classes) through Brightspace.
Also submit a video demonstrating your working solution (the GUI and an explanation of your code going through each method). Your video should not exceed 3 minutes.