Queue Lab

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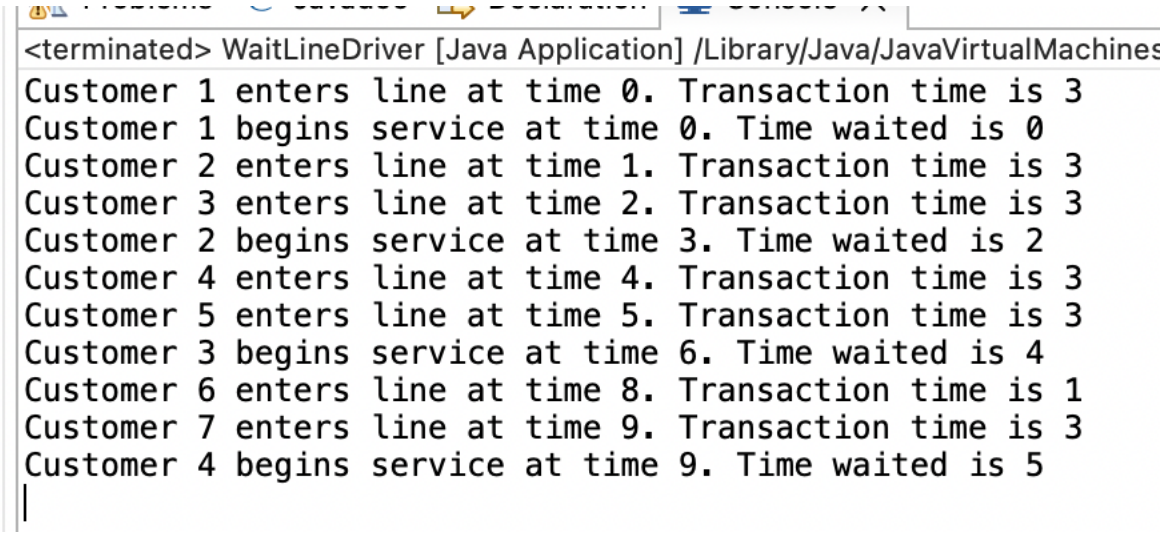
For this lab –

- Implement an array-based (generic) **Queue** using the provided QueueInterface
    - Refer to Chapters 7 & 8 (textbook) for additional information
- Test your queue using a driver, such as the WaitLineDriver.
- Complete a small write-up highlighting your learning experience.

A few comments about this lab –

- You will need to throw the emptyQueueException in your dequeue() method
- You can modify either WaitLineDriver or Customer classes if you need to
- You are here to practice writing queue / stack code getting ready for Project 2. Don't spend too much time getting Waitline to work, especially if you have a few student test cases and they are working.

Screenshot:



Learning experience:

In this lab, I created an array-based generic queue using the provided QueueInterface. I developed the ArrayQueue class to manage queue operations with a circular array, so it could grow as needed. I also made edits to the WaitLine class to simulate a waiting line, using my ArrayQueue to handle the line of customers. I learned key concepts like queue operations (enqueue, dequeue, getFront), how to make the array grow dynamically, and how to handle exceptions.

Overall, this lab gave me practical experience with queue data structures and helped me understand them better through a real-world simulation. This experience will be valuable for future projects like Project 2. By designing and testing my queue in a customer waiting line simulation, I gained useful skills in managing dynamic data all while creating a practical application.