

Challenging Exercises (10-10-2022)

1. In a theme park, the Roller-Coaster ride is started only when a good number of riders line up in the counter (say 20 members). When the ride proceeds with these 20 members, a new set of riders will line up in the counter. This keeps continuing. Implement the above scenario of lining up and processing using arrays with Queue ADT.
2. When burning a DVD it is essential that the laser beam burning pits onto the surface is constantly fed with data, otherwise the DVD fails. Most leading DVD burn applications make use of a circular buffer to stream data from the hard disk onto the DVD. The first part, the 'writing process' fills up a circular buffer with data, then the 'burning process' begins to read from the buffer as the laser beam burns pits onto the surface of the DVD. If the buffer starts to become empty, the application should continue filling up the emptied space in the buffer with new data from the disk. Implement this scenario using Circular Queue.