|  |  |  |
| --- | --- | --- |
| **LAB221 Assignment** | **Type:** | **Short Assignment** |
| **Code:** | **J2.S.P0004** |
| **LOC:** | **38** |
| **Slot(s):** | **1** |

**Title**

Pizza services – Ordering pizza

**Background Context**

A computer system can take and do more than a task at a time; the problem is how to control the shared data, memory, recourses, CPU…among these tasks. Let see a particular sample of pizza service, how we do the synchronization the tasks.

In the Pizza restaurant, the customer gives a call to the Pizza Delivery Service provider and asks for the specific type of pizza required. If that particular type of pizza is available, the delivery boy takes the Pizza parcel and delivers it to the customer as soon as possible. But, if that specific pizza is not available, the customer is asked to wait for some time, or asked to go for some other options available.

**Program Specifications**

Create an application using Thread synchronization to implement the application. The application should consist of the following classes:

1. **Producer.java**

This is a subclass of Thread class that generates and stores the values of single array static variable content one by one into a ProducerConsumerQueue object. The Producer class declares an instance of ProducerConsumerQueue class.

**2. Consumer.java**

This is a subclass of Thread class that consumes and prints the content values of single array variable content one by one from the ProducerConsumerQueue object exactly once. The Consumer class declares an instance of ProducerConsumerQueue class

**3. ProducerConsumerQueue.java**

Class contains the shared contents which are stored by the Producer object and consumed by the Consumer object. Note that the Producer should not access the queue when the Consumer is getting the value. Therefore, the put and get methods are used in the ProducerConsumerQueue class that contains the synchronized keyword.

**4. Main.java**

Use to test the application.

***Function details:***

1. Display a screen to prompt users to input information of list of pizzas.
2. Create two threads (Producer and consumer) and initiate the execution of both the threads.

***Expectation of User interface:***

