

OOP ASSIGNMENT

Submitted By,

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Class: C4 A

Roll No: 04

Problem: Write a Java Program to implement producer consumer Problem.

Code:

```
import java.util.Random;
import java.util.concurrent.ArrayBlockingQueue;
import java.util.concurrent.BlockingQueue;

public class Producer {
    private static BlockingQueue<Integer> queue = new
ArrayBlockingQueue<Integer>(10);
    public static void main(String[] args) throws
InterruptedException {
        Thread t1 = new Thread(new Runnable() {
            @Override
            public void run() {
                try {
                    producer();
                } catch (InterruptedException e) {
                    e.printStackTrace();
                }
            }
        });

        Thread t2 = new Thread(new Runnable() {
            @Override
            public void run() {
                try {
                    consumer();
                } catch (InterruptedException e) {
                    e.printStackTrace();
                }
            }
        });

        t1.start();
        t2.start();

        t1.join();
        t2.join();
    }

    private static void producer() throws InterruptedException {
```

```

    Random random = new Random();
    while(true){
        Thread.sleep(500);
        if(random.nextInt(10)>5) {
            queue.put(random.nextInt(100));
        }
    }
}

private static void consumer() throws InterruptedException {
    Random random = new Random();
    while(true){
        Thread.sleep(500);
        if(random.nextInt(10)>5) {
            System.out.println("Taken value: " + queue.take() + ";
Queue size is " + queue.size());
        }
    }
}
}

```

Output:

```

Taken value: 12; Queue size is 0
Taken value: 77; Queue size is 0
Taken value: 49; Queue size is 0
Taken value: 82; Queue size is 0
Taken value: 64; Queue size is 0
Taken value: 86; Queue size is 4
Taken value: 56; Queue size is 3
Taken value: 36; Queue size is 6
Taken value: 93; Queue size is 7
Taken value: 59; Queue size is 8
Taken value: 93; Queue size is 7
Taken value: 49; Queue size is 7
Taken value: 30; Queue size is 7
Taken value: 73; Queue size is 7
Taken value: 41; Queue size is 7

```