

```

import java.util.ArrayList;
import java.util.List;
import java.util.Scanner;
public class PC
{
    public static void main(String args[])
    {
        List<Integer>buffer=new ArrayList<Integer>();
        Thread t1=new Thread(new Prod(buffer));
        Thread t2=new Thread(new Cons(buffer));
        t1.start();
        t2.start();

    }
}

class Prod implements Runnable
{
    List<Integer> buffer=null;
    final int limit=10;
    int i=0;
    Prod(List<Integer> buffer)
    {
        this.buffer=buffer;
    }

    public void produce(int i) throws InterruptedException
    {
        synchronized (buffer)
        {
            while(buffer.size()==limit)
            {
                System.out.println("Producer waiting for consumer");
                buffer.wait();
            }
        }
        synchronized(buffer)
        {
            buffer.add(i);
            Thread.sleep(10);
            buffer.notify();
        }
    }
}

```

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    }
    public void run()
    {
        while(true)
        {
            try
            {
                i++;
                produce(i);
            }
            catch(Exception e)
            {
                System.out.println(e);
            }
        }
    }
}

```

class Cons implements Runnable

```

{
    List<Integer> buffer=null;
    Cons(List<Integer> buffer)
    {
        this.buffer=buffer;
    }
}

```

public void consume() throws InterruptedException

```

{
    synchronized (buffer){
        while(buffer.isEmpty())
        {
            System.out.println("Consumer waiting for producer");
            buffer.wait();
        }
    }
    synchronized(buffer)
    {
        buffer.remove(0);
        Thread.sleep(10);
        buffer.notify();
    }
}
public void run()
{
}

```

```
while(true)
{
    try
    {
        consume();
    }
    catch(Exception e)
    {
        System.out.println(e);
    }
}
}
```