Write a program in Java to demonstrate synchronization

Program:

import java.io.\*;

import java.util.\*;

// A Class used to send a message

class Sender

{

    public void send(String msg)

    {

        System.out.println("Sending\t"  + msg );

        try

        {

            Thread.sleep(1000);

        }

        catch (Exception e)

        {

            System.out.println("Thread  interrupted.");

        }

        System.out.println("\n" + msg + "Sent");

    }

}

class ThreadedSend extends Thread

{

    private String msg;

    Sender  sender;

    // Receives a message object and a string

    // message to be sent

    ThreadedSend(String m,  Sender obj)

    {

        msg = m;

        sender = obj;

    }

    public void run()

    {

        // Only one thread can send a message

        // at a time.

        synchronized(sender)

        {

sender.send(msg);

        }

    }

}

// Driver class

class SyncDemo

{

    public static void main(String args[])

    {

        Sender snd = new Sender();

        ThreadedSend S1 =

            new ThreadedSend( " Hi " , snd );

        ThreadedSend S2 =

            new ThreadedSend( " Bye " , snd );

        S1.start();

        S2.start();

try

        {

            S1.join();

            S2.join();

        }

        catch(Exception e)

        {

            System.out.println("Interrupted");

        }

    }

}

Output:

Sending Hi

Hi Sent

Sending Bye

Bye Sent