import java.io.BufferedReader;

import java.io.IOException;

import java.io.InputStreamReader;

import java.util.ArrayList;

import java.util.List;

import java.util.Scanner;

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public class BitStuffing{

String frame;

public BitStuffing(String frame)

{

this.frame = frame;

}

public static String senderBitStuff(List<BitStuffing> frameList)

{

String sendString = "";

for(BitStuffing frameObj: frameList)

{

String frame = frameObj.frame;

String append = "01111110";

frame = frame.replaceAll("11111", "111110");

frame = append + frame + append;

sendString = sendString + frame;

}

return sendString;

}

public static String receiverBitStuff(String sentString)

{

sentString = sentString.substring(8, sentString.length());

List<BitStuffing> frameList = new ArrayList<BitStuffing>();

while(sentString.contains("01111110"))

{

String frameString = sentString.substring(0, sentString.indexOf("01111110"));

frameString = frameString.replaceAll("111110", "11111");

BitStuffing frame = new BitStuffing(frameString);

frameList.add(frame);

sentString = sentString.substring(sentString.indexOf("01111110")+8, sentString.length());

}

String receivedString = "";

for(BitStuffing frameObj: frameList)

{

String frameString = frameObj.frame;

receivedString = receivedString + frameString + "\n";

}

return receivedString;

}

public static void main(String args[])throws Exception

{

BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

System.out.println("Enter the number of frames.");

int numberOfFrames = Integer.parseInt(br.readLine());

List<BitStuffing> frameList = new ArrayList<BitStuffing>();

System.out.println("Enter the frames one by one.");

for(int i = 0; i<numberOfFrames; i++)

{

BitStuffing frame = new BitStuffing(br.readLine());

frameList.add(frame);

}

System.out.println("\nBIT STUFFING");

String sentString = BitStuffing.senderBitStuff(frameList);

System.out.println("Sent String : "+sentString);

String receivedString = BitStuffing.receiverBitStuff(sentString);

System.out.println("Received String Framewsie : \n"+receivedString);

}

}

/\*

Output:

Enter the number of frames.

3

Enter the frames one by one.

01111110

01111111

101101010111111011

BIT STUFFING

Sent String : 0111111001111101001111110011111100111110110111111001111110101101010111110101101111110

Received String Framewsie :

01111110

01111111

101101010111111011

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