CS 380

Exercise 2

My repository for this class is under CS 380 – Computer Networks

<https://github.com/jarodNakamoto/College-CS-Courses.git>

Source Code Below:

import java.io.InputStream;

import java.io.BufferedReader;

import java.io.InputStreamReader;

import java.io.OutputStream;

import java.io.PrintStream;

import java.net.Socket;

import java.util.Scanner;

import java.util.Random;

import java.io.IOException;

import java.util.zip.CRC32;

public final class Ex2Client {

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

try (Socket socket = new Socket("18.221.102.182", 38102)) {

//display that server connection was successful

String address = socket.getInetAddress().getHostAddress();

System.out.printf("Connected to: %s%n", address);

//recieves bytes

InputStream is = socket.getInputStream();

System.out.print("Received bytes:");

byte[] bytesTranslated = new byte[100];

for(int i = 0; i < 100; i++)

{

if(i%10 == 0)

{

System.out.println();

System.out.print(" ");

}

int halfByte1 = is.read();

int halfByte2 = is.read();

halfByte1 = halfByte1 << 4;

bytesTranslated[i] = (byte)(halfByte1 ^ halfByte2);

System.out.print(String.format("%02X", bytesTranslated[i]));

}

//create CRC-32 value

CRC32 crc32 = new CRC32();

crc32.update(bytesTranslated);

Long crcVal = new Long(crc32.getValue());

byte[] crcValBytes = new byte[4];

Long copy = new Long(crcVal.longValue());

//take the long and make it into four bytes

for(int i = 0; i < 4; i++)

{

crcValBytes[i] = copy.byteValue();

copy = copy >> 4;

}

System.out.println("\nGenerated CRC32: " + String.format("%08X", crcVal.intValue()) +".");

//sends bytes to server

OutputStream os = socket.getOutputStream();

os.write(crcValBytes);

//receive if crc is correct

if(is.read() == 1)

System.out.println("Response good");

else

System.out.println("Response good");

System.out.println("Disconnected from server.");

is.close();

}

}

}