

Δίκτυα Υπολογιστών I

Ονοματεπώνυμο : Κελέση Ελπίδα

AEM : 09410

Ο κώδικάς μου είναι ο εξής :

```
package diktia1;

import ithakimodem.Modem;
import java.io.*;

/*
    Lesson : Diktia Ypologistwn 1
    Author  : Elpida Kelesi
    AEM     :    09410
*/

public class userApplication {

    public static void main(String[] param) {
        (new userApplication()).demo();
    }

    public void demo() {
        int k;
        Modem modem;
        modem=new Modem();
        modem.setSpeed(50000);
        modem.setTimeout(50000);
        modem.open("ithaki");

        String code = "";
        int code2=0;
        int code3=0;
        for (;;) {

            try {
                k=modem.read();
                if (k==-1) break;
                System.out.print((char)k);

                code += (char)k;
                if(code.indexOf("NO CARRIER")!= -1)
                //stamataei to programma otan lamvanei to No carrier
                {
                    System.out.println("NO CARRIER");
                    modem.close();
                    break;
                }
            }
        }
    }
}
```

```

        if(code.indexOf("\r\n\n") != -1) break; //Break
endless loop by catching sequence "\r\n\n"

    } catch (Exception x) {
        break;
    }
}

//Arq Results with ACK and NACK result codes
try{
    // create a new writer
    PrintWriter writer = new
PrintWriter("D:\\elpida\\ithaki1\\Arq_Results.txt");
    //orismos metavlitwn
    long start1=0,end1=0,time=0,totaltime=0;
    int number_of_attempts = 0 ,
number_of_packages = 0;
    int arqpackage = 0, check=0,xorcheck=0 ;
    int timeout = 310000;
    //ligo parapanw apo 5 lepta =30.000miliseconds
    long start = System.currentTimeMillis();
    long end = start + timeout;
    while(System.currentTimeMillis()<end) {
        //metavlites elegxou kai arithmou
        number_of_attempts = 0;
        //elegxos gia ta nack paketa mexri
        //stin periptosi pou to ack dn einai
        swsto, diladi xor kai fcs dn simpiptoun
        check=0;
        modem.write("Q7422\r".getBytes());
        start1=System.currentTimeMillis();
        String arq1 = "";
        //oi xaraktires tou arq paketou
        einai 58
        for(int i=0;i<58;i++){
            k=modem.read();
            if (k==-1) break;
            System.out.print((char)k);
            if(i==31) xorcheck=k;
            if(i>=32 && i<=46){ // einai
            ta <xxxxx>
            //kanw diadoxika ta XOR
            wste na mporesw na kanw ton elegxo me to fcs
            xorcheck=xorcheck^k;

            }
            // to fcs einai apo 49 ews 51
            if(i>=49 && i<=51){
                arq1 +=(char)k;
            }
        }
        // metatrepw to fcs se integer gia
        na mporw na kanw sigkrisi me to xor
        arqpackage=Integer.valueOf(String.valueOf(arq1));

```

```
//an einai idio tote eimaste ok
//ta apotelesmata sto arxeio ,

if(xorcheck==arqpackage){
    //arithmos prospatheiwon gia
    number_of_attempts++;

    //xronos metaksi twon swstwn

    time=end1-start1;
    writer.print(" time: ");
    writer.print(time);
    //sinolikos xronos gia na

    totaltime = totaltime+time;
    number_of_packages++;
    writer.println(" number of

    System.out.println();
}
// stin periptosi pou den einai idio
//tote exoume sfalma kai prepei to

else{
    //auksanetai o arithmos twon

    number_of_attempts ++;
    System.out.println();
    // mexri na ginei idio to fcs

    while(check!=1){

        String arq2="";
        //o elegxos einai idia

        for(int i=0;i<58;i++){
            k=modem.read();
            if (k==-1)

                if(i==31)

                if(i>=32 &&

                    }
                    if(i>=49 &&

                        arq2

                    }
                }
```

```

    }

    arqpackage=Integer.valueOf(String.valueOf(arq2));
    //einai idia opote o
    elegxos ginetai 1
    //gia na mi
    ksanazitithei paketo nack opote
    //grafetai sto arxeio o
    xronos pou xreiaslike kai o arithmos
    //twn prospatheiwn pou
    eginangia na lifthei to swsto paketo

    if(xorcheck==arqpackage){
        check=1;

        end1=System.currentTimeMillis();

        number_of_attempts++;

        time=end1-
start1;

        System.out.println();

        writer.print("
time: ");

        writer.print(time);

        totaltime =
totaltime+time;

        number_of_packages++;

        writer.println("
number of attempts " +number_of_attempts);
    }
    // dn einai idia
    //o arithmos twn
    else{

        number_of_attempts++;

        System.out.println();

    }
}

}
//sinolika apotelesmata
writer.println(" Total packages received :
" + number_of_packages);

writer.println(" The total time is : " +
totaltime/60000 + " in minutes or " + totaltime + " in miliseconds");
writer.println(" The average time for each
package is: " + totaltime/number_of_packages + " in miliseconds");
//flush the writer
writer.flush();
//flush the stream again
writer.close();

```

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    }catch(Exception x){
        System.out.println(x);
    }
    System.out.println("All the arq packets are
received.");

    //Echo package - time response with echo request code
    try{
        //idios tropos dimiourgias arxeiou opws ta
        arq paketa kai idia sinthiki xronou
        //gia na trexei 5 lepta>4 lepta
        PrintWriter writer = new
PrintWriter("D:\\elpida\\ithaki1\\Echo_results.txt");
        int number_of_packages =0;
        long start1=0,end1=0,time=0, totaltime=0;
        int timeout = 310000;
        long start = System.currentTimeMillis();
        long end = start + timeout;
        String code1 = "";
        while(System.currentTimeMillis()<end){
            modem.write("E044\r".getBytes());
            start1=System.currentTimeMillis();
            for(;;) {

                k=modem.read();
                code1 = code1 + (char)k ;
                System.out.print((char)k);
                //otan vrehteï to PSTOP pou
                //stamataei gia na paei sto
                if (k == -1 ||
code1.endsWith("PSTOP")) break;

            }
            //metraei to xrono gia to
            sigkekrimeno paketo kai to sinoliko xrono
            //kathws kai ton arithmo twñ
            sinolikwn paketwn

            end1=System.currentTimeMillis();
            time=end1-start1;
            totaltime = totaltime +time;
            number_of_packages++;
            System.out.println(" "+time );
            writer.println("...receiveid in
"+time + " miliseconds ");
        }
        //grafei ta apotelesmata sto arxeio
        writer.println(" Total packages received :
" + number_of_packages);
        writer.println(" The total time is : " +
totaltime/60000 + " in minutes or " + totaltime + " in miliseconds");
        writer.println(" The average time for each
package is: " + totaltime/number_of_packages + " in miliseconds");
        writer.flush();
        writer.close();
    }catch(Exception x){
        System.out.println(x);
    }
}

```

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        System.out.println("All the echo packets are
received.");

        //Image without errors with image request code
        try{
            //dimiourgeitai to arxeio gia tin eikona
            File file = new
File("D:\\elpida\\ithaki1\\Noerrorsimage.jpg");
            FileOutputStream image = new FileOutputStream(file);
            if (!file.exists()) {
                file.createNewFile();
            }
            modem.write("M1676\r".getBytes());
            for(;;){
                k=modem.read();
                if (k==-1) break;
                //apothikeuei ta string pou pairnei mexri na brei
0xFF kai 0xD8
                //gt tote arxizei i eikona, opote arxei kai tin
grafei sto arxeio

                code3 = code2;
                code2 =k;
                if(code3==0xFF && code2==0xD8) break;
            }
            image.write((byte)0xFF);
            image.write((byte)0xD8);
            for(;;) {
                k=modem.read();
                if (k==-1) break;
                image.write((byte)k);
                //ti grafei mexri na vrei 0xFF kai 0xD9 pou
simainei oti eikona teleiose
                code3 = code2;
                code2 =k;
                if(code3==0xFF && code2==0xD9) break;
            }
            image.flush();
            image.close();
        }catch(Exception x){
            System.out.println(x);
        }
        System.out.println("The image without errors is received");

        //Image with errors with image request code
        //idia logiki me tin eikona me lathi
        try{
            File file = new
File("D:\\elpida\\ithaki1\\Errorsimage.jpg");
            FileOutputStream image = new FileOutputStream(file);
            if (!file.exists()) {
                file.createNewFile();
            }
            modem.write("G3468\r".getBytes());
            for(;;){
                k=modem.read();
                if (k==-1) break;
                code3 = code2;
                code2 =k;
                if(code3==0xFF && code2==0xD8) break;
            }
        }
    }
}

```

```

    }
    image.write((byte)0xFF);
    image.write((byte)0xD8);
    for(;;) {
        k=modem.read();
        if (k==-1) break;
        image.write((byte)k);
        code3 = code2;
        code2 =k;
        if(code3==0xFF && code2==0xD9) break;
    }
    image.flush();
    image.close();
} catch (Exception x){
    System.out.println(x);
}
System.out.println("The image with errors is received.");

//Gps results with GPS request code
try{
    //dimiourgei to arxeio gia ta stigmata gps
    PrintWriter writer = new
PrintWriter("D:\\elpida\\ithaki1\\Gps_results.txt");
    //to noumero 1010085 simainei diadromi X=1, apo pouna
    arxisei ta
    //4 epomena psifia pou tou lew na arxisei apo to 100
    kai ta alla
    // dio simainoun na parei 90 stigmata (ap to 100 k
    panw) to 100 to
    //evala stin tixi kai to 90 vgike san noumero wste na
    mporw ana 10
    //na parw sintetagmenes gia ta stigmata pou xreiazomai
    gia tin
    //eikona gps,parapanw apo 90 den xreiazomoun alla ekana
    dokimes
    //kai me 95 paradeigmatos xari ola itan entaksi i
    eikona
    modem.write("P9238R=1010090\r".getBytes());
    for(;;){
        k=modem.read();
        if (k==-1) break;
        System.out.print((char)k);
        writer.print((char)k);
        code += (char)k;
        //grafe sintetagmenes mexri na vrethei to
        STOP ITHAKI GPS...
        //pou simainei oti stalthikann oles oi
        sintegmenes
        if(code.indexOf("STOP ITHAKI GPS
        TRACKING\r\n")!=-1) break;
    }
    System.out.println();
    writer.println();
    writer.close();
} catch (Exception x){
    System.out.println(x);
}
System.out.println("All the gps coords are received.");

```

```

//Eikona diadromhs gps me GPS request code
try{
    //idia diadikasia me tis alles eikones
    File file = new
File("D:\\elpida\\ithaki1\\Gpsimage.jpg");
    FileOutputStream image = new FileOutputStream(file);
    if (!file.exists()) {
        file.createNewFile();
    }
    //edw omws exoume kai ta stigmata..eksigw to pws vgikan
    ta sigkekrimena
    //noumera sto report, ta ixni prepei na exoun diafora 4
    deuteroleptwn,
    //opote pira sintetagmenes me diafora 10 deyteroleptwn
    gia na eimai sigouri

    modem.write("P9238T=225731403737T=225729403741T=225727403743T=225729
403744T=225731403746T=225732403747T=2257334037746\r".getBytes());
    for(;;){
        k=modem.read();
        if (k==-1) break;
        code3 = code2;
        code2 =k;
        if(code3==0xFF && code2==0xD8) break;
    }
    image.write((byte)0xFF);
    image.write((byte)0xD8);
    for(;;) {
        k=modem.read();
        if (k==-1) break;
        image.write((byte)k);
        code3 = code2;
        code2 =k;
        if(code3==0xFF && code2==0xD9) break;
    }
    image.flush();
    image.close();
}catch(Exception x){
    System.out.println(x);
}
System.out.println("The GPS image is received.");
// to programma teleiose
System.out.println("The Program is finished.");
//kleinw to modem
modem.close();
}
}

```