Alm: To write a java program to perform stop and walt protocal.

Algorithm: stop1:start

Step 2: Get the frame size from the user

Stop 3: To create the frame based on the uson request

Stop 4: To sond frames to somer from the client side.

Stop 5: Ack signal, received if transmisson is successful otherwise NACK will be received.

stop6: Stop

## sonder:

Import gava. 90, \*; Import Java. not . \*;

dass stopandwait &

Socket 5; Object Dutput Stream out; Object Input Stream in; String packet, ack 15th, msg; 9nt 1,9=0, soquence=0;

stopandwastc) ?3

public vold suncis

trys

Buffored Reader br = now Buffored Reader (now Input StramReader Bystom.in);

system out oprinter/"waiting for connection...."); S = now Socket ("localhest", 2004); sequence =0; out = now ObjectOutputStream(5, getOutputStream()); out glushes;

```
Pn = new ObjectInputStream(s.getInputStream(s);
str = (string) In. readObject();
System.out.println("receiver >"+9++"In Enter the data to sond ...");
packet = br. readline(); n=packet.length();
 do ?
   try &
      3692178
          msg = string, value of sequences;
          msg=mog. correct (packet. substring (9,9+1));
      3 else 9+ (9==n) {
          msg = "end"; out . wite Object (msg); to real;
     out-writeObject(msg); sequence = (sequence ==0)? 1:0;
     out. flushes;
      System. out. println("data sent>"+msg);
      ack = (String) in. read Object(); System.out.print("waiting for
                                                          ack ... Inin");
      Pfrack. comals (String. value Of sequence)) ?
           9++3
           System. out. prontine "recorver > " + "packet loce" welling"):
       ? else ?
          system, out prentlem ("Time out recording data... In In");
          50epuen@=(90quen@==0)?1:0;
        3 catch (Exception e) []
        3 whole (12n+1); System. out. println ("All data sent. exiting");
        3 catch (Exaption e) =3
        finally ?
           Pn. close (); out. dose(); 5. dose();
    3
```

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Public static unid main (string all)?
       stopandwalt s = now stopardwalts;
      So TUN);
                                     have of notes out rother
eccolver program:
                                               HOL TOPE DIE
Proport Java. Po. +3
                                     bownson toping a roving
9mpost java. not . *3
days Recorvers
    Server Socket 95; Socket conn=null; Object Dup Witrown out;
   ObjectInputStream ing String pocket, acir, data="1";
    Put 1=0, saquance =03
                                               togtus roving
    public vold runa &
      try?
      Buffered Reader br = now Buffered Reader (now Input Stream Reader
                                                       (System im);
       SS = now Somer Socket (2004,107;
        System. Out-printin ("waiting for connection...");
         Conn = 55. acrept(); sequence =0;
                                             H i bay lang peol
         System. out. println ("connection extablished: 3 1);
        out = now Object DutputStream (onn. get OutputStream ();
         out. flush();
        In = new Object Inpul Stream (Conn. get Input Stream ());
         out water bject ("connected: ");
        dof
          xry 2
             packet = (String) Pro. read Object();
             ?f(Integer. valueOf(packet. substring(0,1)) == sequence) &
                 data + = packet. Substring (1);
                  sequence = ( sequence == 0) ?1:0;
```

sendor output: waiting for connection .... receivor > connected Enter the data to sond .... Hi data sont 20 H waiting for ade ... received > packet received data sent >11 waiting for ack .... received > padaet received All data sont. Criting

the forever we got

Recolver output:

waiting for connection... bosothus wat - 14 reprodborothus Connection established:

receiver >0 H MOREVOT > 1 in the control of the co

Data received: Hi

waiting for connection... ant - now Object input Warmy ann Sol Bullet Strain II;

```
System. out. prontly "In in recover > "+ packets
  3 else &
    System. out. printer ("Inintendi vor ) "+ packet +" duplicate data";
  3 96(923) 3
       out. workedbjod (string. value Of/somenne); 9++;
   301808
      outowed to Object (String. value Of (soquerre+1)% 2)); 1=0;
   3 catch (Exception e) { }
  3 while ( ! packedt , equals (" and ");
  System. out, println(" oata recorred = "+data;
  out. wiltersject ("convoction anded.");
  3 catch (Exception 0) {3
 finally?
   in.dose(); out.dose(); .s.dose();
public static void maln (String angs[])?
      Receiver or = now receiver);
                 while(true) 7. run();
     3
3
```

Result: Thus the Implementation of Stop and walt protocol was implemented and executed successfully.