```
    if ((snum = socket( AF_INET, SOCK_STREAM, 0 )) == -1)
    {
        AppPanic("Socket Creation:",errno);
    }

    /*
    ** Here we clear and prepare the information to give our socket
    ** a real address on the system.
    */

    memset( &sockaddr, 0, len );
    sockaddr.sin_family = AF_INET;

      /*
      **  Following is commented out for ease of testing purposes!
      **
      **  {
      **      struct servent *servptr;
      **      char *serv = APPNAME;
      **
      **      if ((servptr = getservbyname( serv, "tcp" )) == NULL)
      **      {
      **          AppPanic("Service not in inet:db/services list!",0);
      **      }
      **      sockaddr.sin_port = servptr->s_port;
      **  }
      */

    sockaddr.sin_port = 8769;

    sockaddr.sin_addr.s_addr = INADDR_ANY;

    /*
    ** Having everything set up, we now attempt to allocate the port number
    ** for our socket.  If this fails, we bail.
    */

    if ( bind( snum, (struct sockaddr *)&sockaddr, len ) < 0 )
    {
        AppPanic("Socket Binding:",errno);
    }

    /*
    ** Okay, the socket is as ready as it gets.  Now all we need to do is to
    ** tell the system that the socket is open for business.  In an ideal
    ** world, this needs to be checked for errors, but for the scope of the
    ** example, it isnt necessary.  By the way, the '5' in the listen() call
    ** indicates the "queue size" for number of outstanding requests.
    */

    listen( snum, 5 );

    /*
    ** And last, we pass the socket number back to the main routine.
    */

    return snum;
}

/*
**  HandleMsg() - Handles client connection and message display
**
**  This is where 90% of the "function" of the program occurs.  This routine
**  connects the server to the client socket, gets the incoming message pkt,
**  acknowledges it, displays it, then terminates the client connection.
**  For doing all that, its small, a testament to how easily the actual work
**  can be done.
*/
void    HandleMsg( int sock )
{
    struct NetNote in;              /* Buffer for incoming packets */

    struct sockaddr_in saddr;       /* Socket address from accept() */
    struct in_addr sad;             /* Internet address component */

    struct hostent *hent;           /* Internet host information */

    int nsock,                      /* New socket from accept() */
        len,                        /* Length of addr from accept() */
        retv;                       /* Return value from DoER call */

    char rname[80],                 /* Buffer for titlebar string */
         *hname,                    /* Ptr to the hostname */
         *dd_addr;                  /* Ptr to the dotted-decimal address */

    /*
    ** We accept() the attempted connection on socket 'sock'
    ** which also yields the addr of the remote machine.  Then we
    ** attempt to convert the name to something meaningful.
    **
    ** First, we clear the stuff...
    */


    bzero( (char *)&rname, 80);
    bzero( (char *)&saddr, sizeof(struct sockaddr_in) );
    bzero( (char *)&sad, sizeof(struct in_addr) );
    len = sizeof(struct sockaddr_in);


    /*
    ** Then we accept the connection on the socket
    */
    /* Bug fixed 1/93: line below checked for wrong return value. Sorry Dale! */
    if ((nsock = accept( sock, (struct sockaddr *)&saddr, &len )) < 0)
    {
        AppPanic("Accept:",errno);
    }

    /*
    ** Break the internet address out of the sockaddr_in structure and then
    ** create a dotted-decimal format string from it, for later use
    */

    sad = saddr.sin_addr;
    dd_addr = inet_ntoa(sad.s_addr);

    /*
    ** Use the internet address to find out the machine's name
    */

    if ( !(hent =
            gethostbyaddr( (char *)&sad.s_addr,
                           sizeof(struct in_addr),
                           AF_INET )))
    {
        AppPanic("Client resolution:\nAddress not in hosts db!", 0 );
    }
    hname = hent->h_name;

    /*
    ** Form the string which goes into the title bar using name & address
    */

    sprintf( rname, "FROM: %s (%s)", hname, dd_addr );
```

```
    /*
    ** Okay, now the waiting packet needs to be removed from the connected
    ** socket that accept() gave back to us.  Verify its of type NN_MSG and
    ** if not, set return type to NN_ERR.  If it is, then display it and
    ** return an NN_ACK message.
    */

    recv( nsock, (char *)&in, sizeof(struct NetNote), 0 );
    if (in.nn_Code == NN_MSG)
    {
        DisplayBeep(NULL);
        DisplayBeep(NULL);
        retv = DoER( rname, (char *)&in.nn_Text, (char *)&in.nn_Button );
        in.nn_Code = NN_ACK;
        in.nn_Retval = retv;
    }
    else
    {
        in.nn_Code = NN_ERR;
    }

    /*
    ** Having dealt with the message one way or the other, send the message
    ** back at the remote, then disconnect from the remote and return.
    */

    send( nsock, (char *)&in, sizeof(struct NetNote), 0 );
    s_close( nsock );
```

```
;/* sendnote.c - Execute to compile with SAS 5.10b
LC -b0 -cfistq -v -y -j73 sendnote.c
Blink FROM LIB:c.o sendnote.o TO sendnote LIBRARY LIB:LC.lib LIB:Amiga.lib
quit
*/


/*
** Our Application Prototypes (specific to notes.c file)
*/

void    main( int, char ** );
void    FinalExit( int );

/*
** Application-specific defines and globals
*/

char Version[] = "\0$VER: SendNote 1.2 (1.12.91)";

#define TEMPLATE    "Host/A,Text,Button"
#define OPT_HOST    0
#define OPT_TEXT    1
#define OPT_BUTTON  2
#define OPT_COUNT   3

/*
** The library bases...we need em later...
*/

struct Library *IntuitionBase, *SockBase;

/*
** All other includes and protos are indexed off our catch-all file
** note.h which both the client (sendnote.c) and server (shownote.c)
** include.
*/

#include    "note.h"


void    main(int argc, char **argv)
{
    struct RDArgs *rdargs;      /* ReadArgs() return information */

    struct sockaddr_in serv;    /* Server's Internet Address */

    struct hostent *host;       /* The located host info */

    struct NetNote out;         /* Message packet for send/recv */

    long opts[OPT_COUNT] =  {
                            0L,
                            (long)"== PING! ==",
                            (long)"OK"
                            };

    int sock;                   /* The working socket */

    char *hostnam,                  /* Arg of hostname */
         *text,                 /* Arg of text to be sent */
         *button;               /* Arg of button text */

    /*
    ** Process arguments using new (2.0) dos calls.
    */

    rdargs = (struct RDArgs *)ReadArgs( (UBYTE *)TEMPLATE, opts, NULL );
    if(rdargs == NULL)
```