EXPERIMENT-10

IMPLEMENT CHAT APPLICATION

AIM: To implement chatting in C.

CLIENT SIDE

ALGORITHM:

The steps involved in establishing a socket on client side are as follows:

1) Create a socket with the socket() system call

2) Connect the socket to the address of the server using the connect() system call.

3) Send and receive data. There are a number of ways to do this, but the simplest is to use the read() and write() system calls.

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```
#include<sys/socket.h>
#include<stdio.h>
#include<string.h>
#include<netdb.h>
#include<stdlib.h>
int main()
{
char buf[100];
int k;
int sock_desc;
struct sockaddr_in client;
memset(&client, 0, sizeof(client));
sock_desc = socket(AF_INET, SOCK_
STREAM, 0);
if (sock_desc == -1)
{ printf("Error in socket creation");
exit(1);
}
client.sin_family = AF_INET;
client.sin_addr.s_addr = INADDR_ANY;
client.sin_port= 3002;
```

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k=connect(sock_desc,(struct sockaddr*)&
client,sizeof(client));
if(k==-1)
{printf("Error in connecting to server");
exit(1);
}
while(1)
{printf("\n Enter data to be sent to server:");
fgets(buf,100,stdin);
if(strncmp(buf,"end",3)==0)
break;
k=send(sock_desc,buf,100,0);
if(k==-1)
{printf("Error in sending");
exit(1);
}
printf
k=recv(sock_desc,buf,100,0);
if(k==-1)
{printf("Error in receiving");
exit(1);
}

```
printf("Message got from server is : %s", buf);
}
close(sock_desc);
exit(0);
return 0;
}
```

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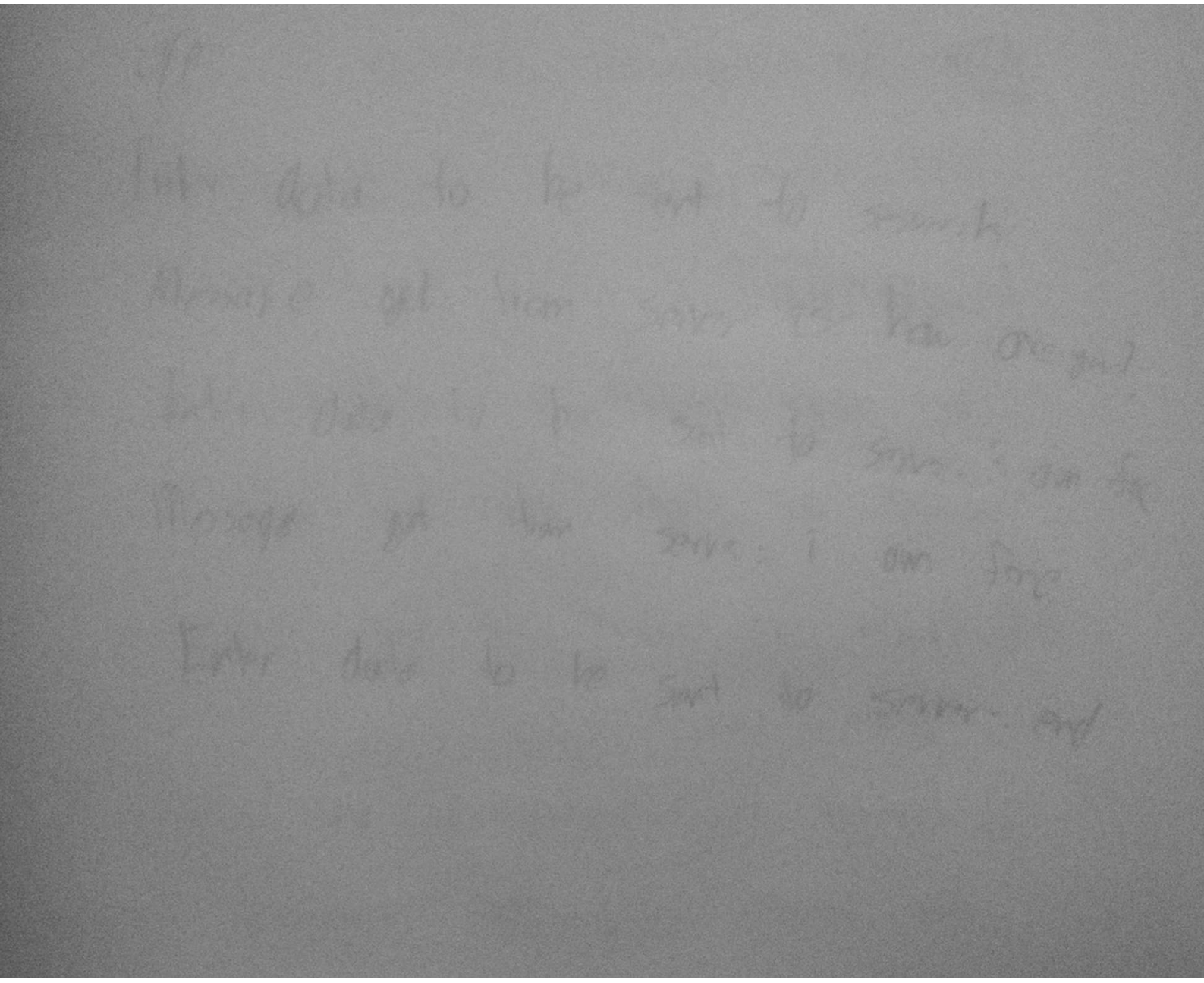

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AIM:

SERVER SIDE

ALGORITHM:

The steps involved in establishing a socket on Server side are as follows.

1) Create a socket with the socket() system call
2) Bind the socket to an address using the bind() system call for a server socket on Internet, an address consists of a port number on host machine.
3) Listen for connections with the listen() system call.
4) Repeatedly do the following:
   - Call accept() to get a new socket for each client connection
   - Communicate with the client via the new socket using send() and recv()
   - Close the client connection using close()

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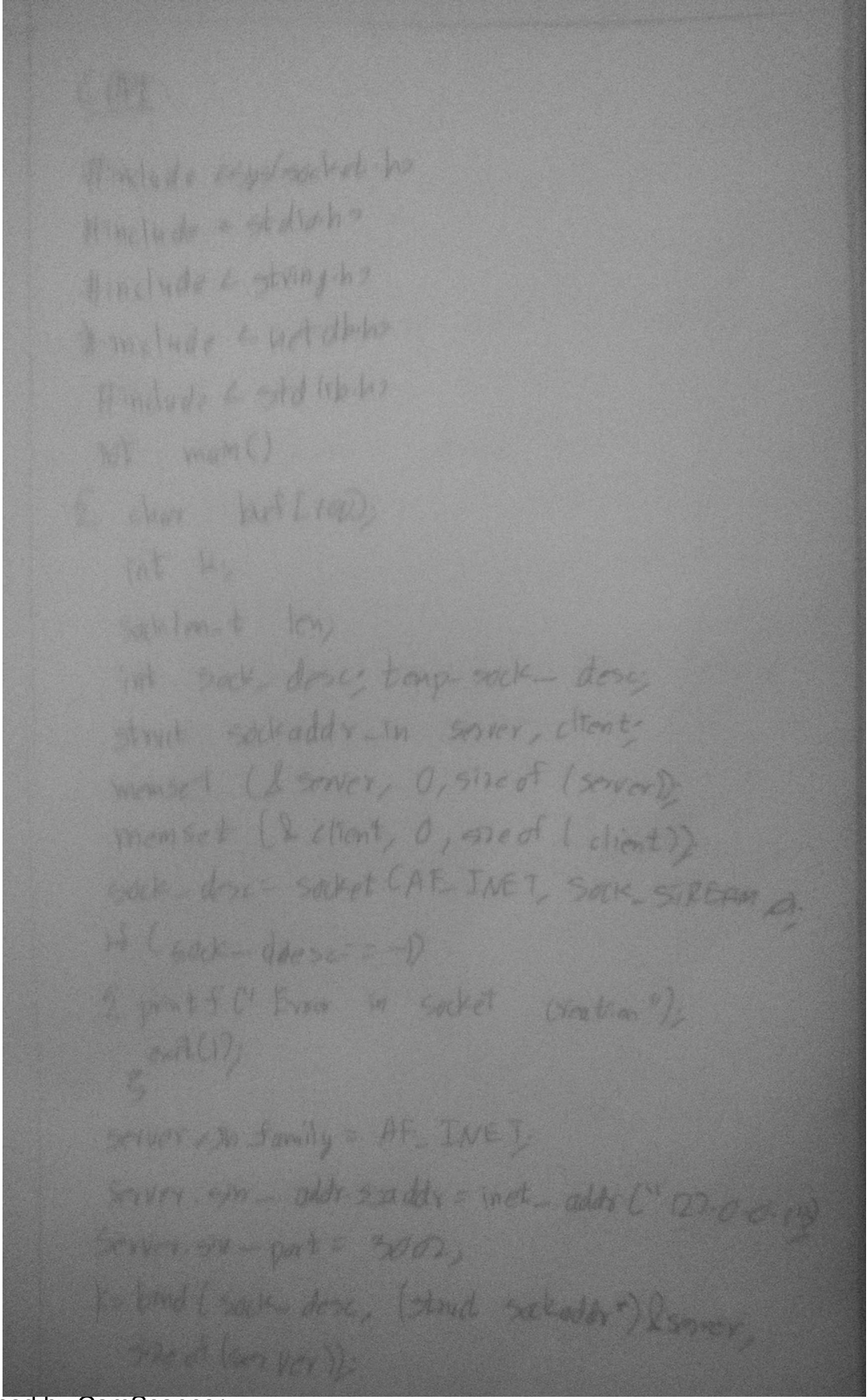

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```
if (k==-1)
{printf("Error in binding");
 exit(0);
}
k= listen (sock_desc, 20);
if (k==-1)
{ printf("Error in listening");
  exit(0);
}
len = sizeof (client);
temp_sock_desc = accept ( sock_desc, (struct
sockaddr*)&client, &len);
if (temp_sock_desc==-1)
{ printf("Error in temporary socket creation");
  exit(0);
}
while(1)
{
k= recv (temp_sock_desc, buf, 100,0);
if (k==-1)
{ printf ("Error in receiving");
 exit(0);
}
printf("Message got from client is: %s",
  buf);
```

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```
printf("\n Enter data to be sent to
client :");
fgets(buf, 100, stdin);
if (strcmp(buf, "end", 3) == 0)
break;
i = send(temp_sock - desc, buf, 100, 0);
if (i == -1)
{ printf("\n Error in sending");
exit(1);
}
}
else { temp_sock - desc);
exit(0);
return 0;
}
```

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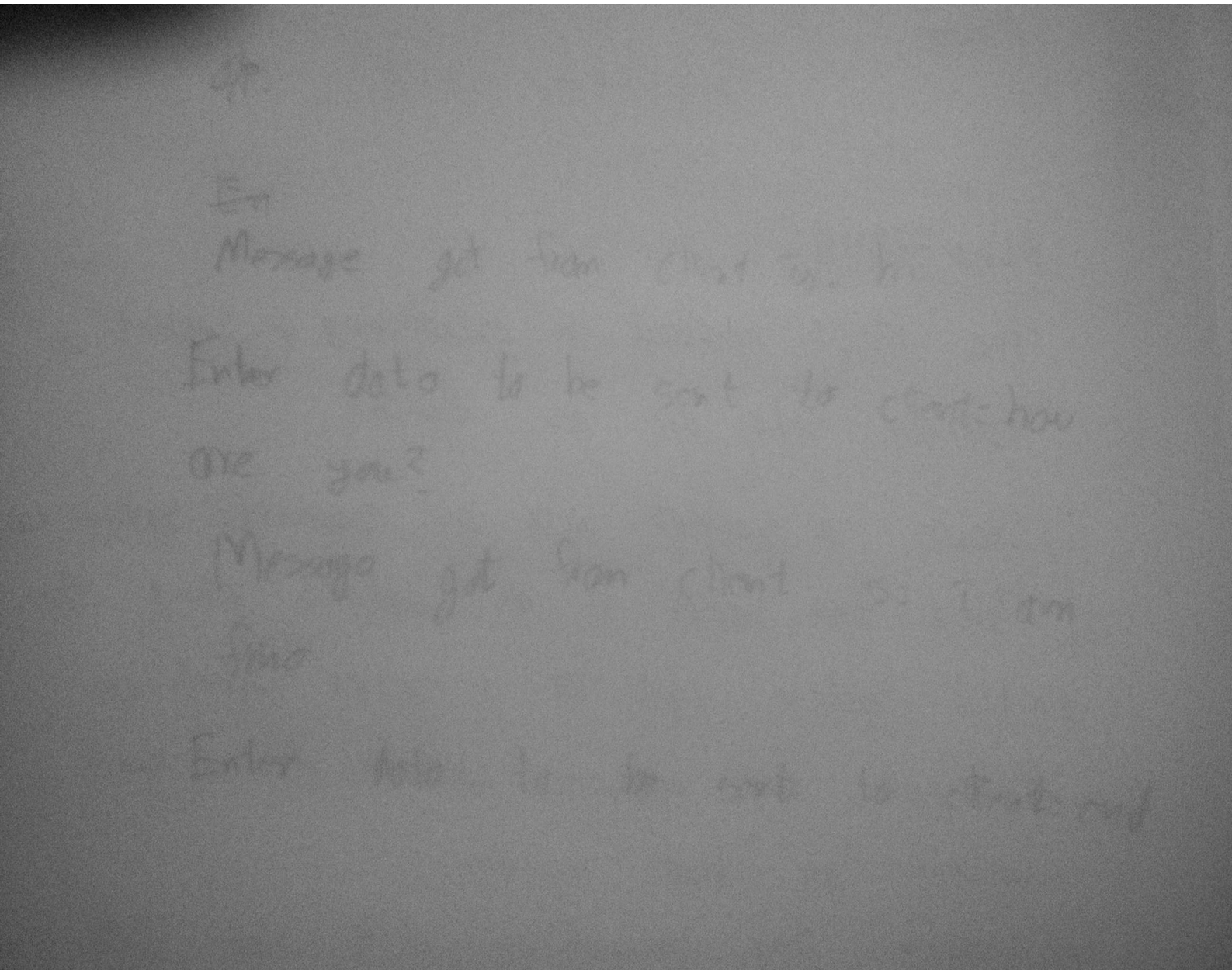

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