

# Application ID 1:Banking System using Client-Server socket programming

Group Number-11

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Note:All the names and password of the customer,admin and police are in small letters.

First we have to run the server using this command.

```
user@user-HP-255-G8-Notebook-PC:~/Downloads/OS_Assignment$ gcc server.c -o server
user@user-HP-255-G8-Notebook-PC:~/Downloads/OS_Assignment$ ./server 8089
```

Then we will have the client side.

The admin can either add a new client/can do debit and credit in the accounts of the customer.

Here we have added a user ayon as an admin.(We can add dynamic users in the bank by choosing option 1.)

```
user@user-HP-255-G8-Notebook-PC:~/Downloads/OS_Assignment$ gcc client.c -o client
user@user-HP-255-G8-Notebook-PC:~/Downloads/OS_Assignment$ ./client 127.0.0.1 8087
Connection has Established.
Enter username:
nabati
Enter password:
xyz
Press 1 to add new user
Press 2 for doing debit and credit
1
Enter the credentials
=====
Enter username
ayon
Enter password
ayo
Enter type (C for customer , A for admin , P for police
C
end closed by the server.
Connection is closed gracefully.
user@user-HP-255-G8-Notebook-PC:~/Downloads/OS_Assignment$
```

Now we can either credit/debit from somebodies account.(we are adding some amount in vanshita and darshika's account.

```

user@user-HP-255-G8-Notebook-PC:~/Downloads/OS_Assignment$ gcc client.c -o client
user@user-HP-255-G8-Notebook-PC:~/Downloads/OS_Assignment$ ./client 127.0.0.1 8087
Connection has Established.
Enter username:
nabati
Enter password:
xyz
Press 1 to add new user
Press 2 for doing debit and credit
2
Enter username of the account holder or 'exit' to terminate the program
vanshita
1.Press 1 to Credit
2.Press 2 to Debit
Write exit to terminate the program
1
Enter the amount
500
Account updated successfully.
=====

Enter username of the account holder or 'exit' to terminate the program.
darshika
1.Press 1 to Credit
2.Press 2 to Debit
Write exit to terminate the program
1
Enter the amount
400
Account updated successfully.
=====

Enter username of the account holder or 'exit' to terminate the program.
exit
Thank You nabati
end closed by the server.
Connection is closed gracefully.
user@user-HP-255-G8-Notebook-PC:~/Downloads/OS_Assignment$ █

```

We are debitting some amount from vanshita's

```

user@user-HP-255-G8-Notebook-PC:~/Downloads/OS_Assignment$ gcc client.c -o client
user@user-HP-255-G8-Notebook-PC:~/Downloads/OS_Assignment$ ./client 127.0.0.1 8087
Connection has Established.
Enter username:
nabati
Enter password:
xyz
Press 1 to add new user
Press 2 for doing debit and credit
2
Enter username of the account holder or 'exit' to terminate the program
vanshita
1.Press 1 to Credit
2.Press 2 to Debit
W LibreOffice Writer rminate the program
2
Enter the amount
50
Account updated successfully.
=====

Enter username of the account holder or 'exit' to terminate the program.
exit
Thank You nabati
end closed by the server.
Connection is closed gracefully.
user@user-HP-255-G8-Notebook-PC:~/Downloads/OS_Assignment$ █

```

This was the work of the admin.

Now let us see the work of the client.

```

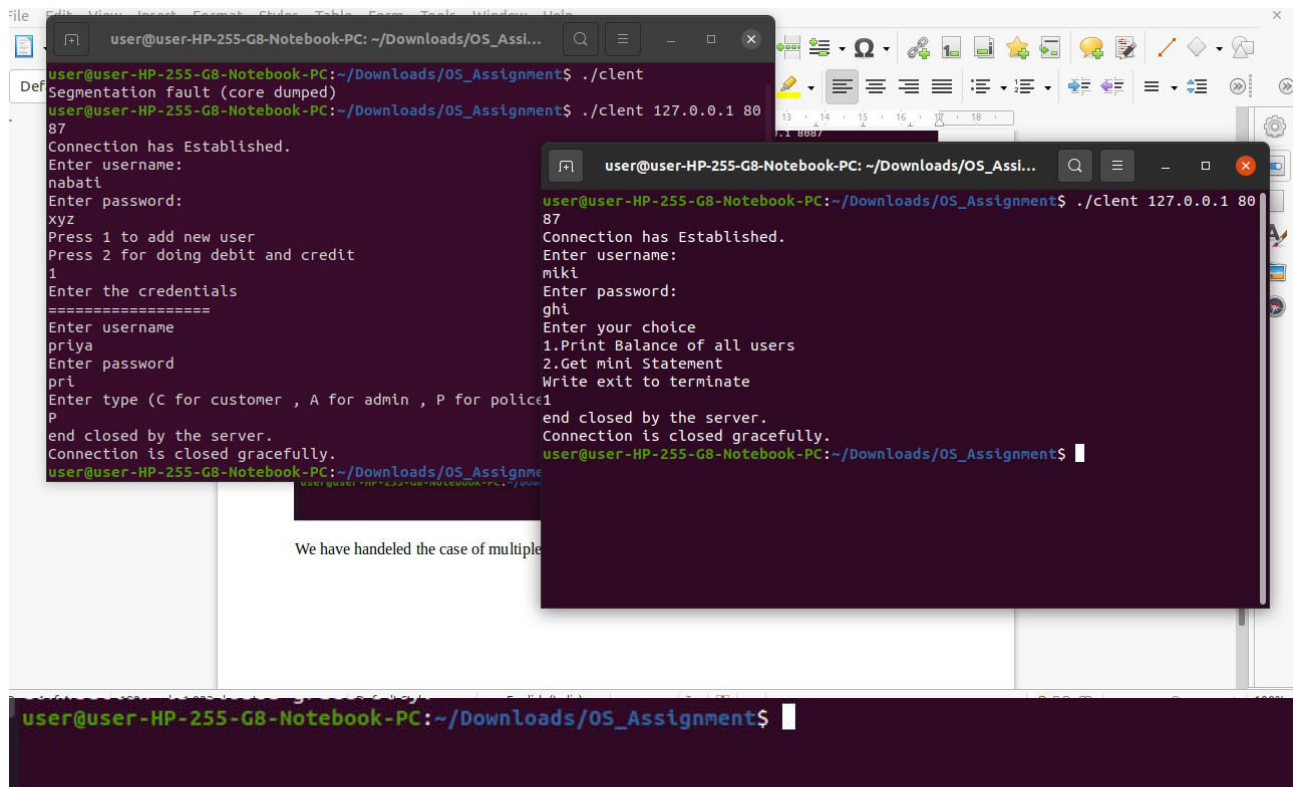
user@user-HP-255-G8-Notebook-PC:~/Downloads/OS_Assignment$ gcc client.c -o client
user@user-HP-255-G8-Notebook-PC:~/Downloads/OS_Assignment$ ./client 127.0.0.1 8087
Connection has Established.
Enter username:
vanshita
Enter password:
P Rhythmbox
Select among the options (Enter 1 or 2)
1.Show available balance
2.Show mini statement
Write exit for terminating.
1
=====
Available Balance: 450.000000
=====

Select your choice
1.Available Balance
2.Mini Statement
Write exit for terminating the program.
2
=====
Mini Statement:
Sun Apr 10 18:43:03 2022 D 450.000000
Sun Apr 10 18:40:48 2022 C 500.000000
=====

Enter your choice
1.Available Balance
2.Mini Statement
Write exit for terminating the program.
exit
Thank You vanshita
end closed by the server.
Connection is closed gracefully.
user@user-HP-255-G8-Notebook-PC:~/Downloads/OS_Assignment$ █

```

The client can view the available balance/can get the ,ministatement and if they don't want to get anything they can exit.The above diagram shows the available balance and the ministatment is being shown by the most recent transaction. And the date and time is shown along with the debit and credit type.



```
user@user-HP-255-G8-Notebook-PC: ~/Downloads/OS_Assignme...
user@user-HP-255-G8-Notebook-PC:~/Downloads/OS_Assignme...$ ./clnt
Segmentation fault (core dumped)
user@user-HP-255-G8-Notebook-PC:~/Downloads/OS_Assignme...$ ./clnt 127.0.0.1 80
87
Connection has Established.
Enter username:
nabati
Enter password:
xyz
Press 1 to add new user
Press 2 for doing debit and credit
1
Enter the credentials
=====
Enter username
priya
Enter password
prl
Enter type (C for customer , A for admin , P for police)
P
end closed by the server.
Connection is closed gracefully.
user@user-HP-255-G8-Notebook-PC:~/Downloads/OS_Assignme...$

user@user-HP-255-G8-Notebook-PC:~/Downloads/OS_Assignme...$ ./clnt 127.0.0.1 80
87
Connection has Established.
Enter username:
miki
Enter password:
ghi
Enter your choice
1.Print Balance of all users
2.Get mini Statement
Write exit to terminate
end closed by the server.
Connection is closed gracefully.
user@user-HP-255-G8-Notebook-PC:~/Downloads/OS_Assignme...$
```

We have handled the case of multiple clients also as shown in the above screenshot.