**MDS Assignment -09**

**Server.py**

from http import server

from re import X

import socket

from \_thread import \*

import mysql.connector

host = '127.0.0.1'

port = 1233

ThreadCount = 0

conn=mysql.connector.connect(host='localhost',username='root',password='Aishwarya@123',database='college')

my\_curr=conn.cursor()

try:

my\_curr.execute("select \* from student2")

result=my\_curr.fetchall()

print("Actual Table")

for i in result:

print(i)

j=0;

except:

conn.rollback()

def client\_handler(connection):

connection.send(str.encode('You are now connected to the replay server... Type BYE to stop'))

n=len(result)

global j;

arr1=[]

arr2=[]

arr3=[]

for i in range(n):

if(result[i][0]<6):

arr1.append(result[i])

elif(result[i][0]>=6 and result[i][0]<=10):

arr2.append(result[i])

else:

arr3.append(result[i])

if(j==0):

str2="select:1" # 1 is div

for i in range(len(arr1)):

str1=""

for k in arr1[i]:

str1+=str(k)+" "

str1+='\n'

connection.send(str.encode(str1))

connection.send(str.encode(str2))

elif(j==1):

str2="sort: "

for i in range(len(arr2)):

str1=""

for k in arr2[i]:

str1+=str(k)+" "

str1+='\n'

connection.send(str.encode(str1))

connection.send(str.encode(str2))

else:

str2="select:2"# 2 is department

for i in range(len(arr3)):

str1=""

for k in arr3[i]:

str1+=str(k)+" "

str1+='\n'

connection.send(str.encode(str1))

connection.send(str.encode(str2))

j+=1

while True:

data = connection.recv(2048)

message = data.decode('utf-8')

if message == 'BYE':

break

reply = f'Server: {message}'

connection.send(str.encode(str1))

connection.close()

def accept\_connections(ServerSocket):

Client, address = ServerSocket.accept()

print('Connected to: ' + address[0] + ':' + str(address[1]))

start\_new\_thread(client\_handler, (Client,))

def start\_server(host, port):

ServerSocket = socket.socket()

try:

ServerSocket.bind((host, port))

except socket.error as e:

print(str(e))

print(f'Server is listing on the port {port}...')

ServerSocket.listen()

while True:

accept\_connections(ServerSocket)

start\_server(host, port)

**client.py**

import socket

host = '127.0.0.1'

port = 1233

ClientSocket = socket.socket()

print('Waiting for connection')

try:

ClientSocket.connect((host, port))

except socket.error as e:

print(str(e))

Response = ClientSocket.recv(2048)

arr1=[]

while True:

Input = input('Your message: ')

ClientSocket.send(str.encode(Input))

Response = ClientSocket.recv(2048)

arr1.append(Response.decode('utf-8'))

sol=arr1[0].split('\n')

if(sol[-1].split(':')[0]=="sort"):

s=[]

for i in range(len(sol)-1):

val=sol[i].split(' ')

s.append(float(val[3]))

s.sort(reverse=True)

sorted\_arr=[]

for j in range(len(s)):

for i in range(len(sol)-1):

val=sol[i].split(' ')

if(s[j]==float(val[3])):

sorted\_arr.append(sol[i])

for i in sorted\_arr:

print(i)

else:

set1=set()

l=int(sol[-1].split(":")[1])

s=[]

for i in range(len(sol)-1):

val=sol[i].split(' ')

set1.add(val[l])

for i in set1:

print(i)

ClientSocket.close()

**Server Output:-**

PS E:\Dynamix> cd MDS-7

PS E:\Dynamix\MDS-7> python server.py

Actual Table

(id,div,branch,cgpa)

(1, 'A', 'CSE', 8.0)

(2, 'B', 'CSE', 8.3)

(3, 'A', 'IT', 8.6)

(4, 'A', 'IT', 5.3)

(5, 'B', 'IT', 7.8)

(6, 'A', 'ENTC', 5.0)

(7, 'B', 'ENTC', 7.7)

(8, 'B', 'CSE', 9.7)

(9, 'B', 'CSE', 10.0)

(10, 'A', 'IT', 9.0)

(11, 'B', 'CSE', 10.0)

(12, 'B', 'CSE', 7.5)

(14, 'B', 'ENTC', 6.0)

(15, 'B', 'ENTC', 8.0)

(13, 'A', 'IT', 7.0)

Server is listing on the port 1233...

Connected to: 127.0.0.1:54907

Connected to: 127.0.0.1:54909

Connected to: 127.0.0.1:54923

**Client1 output:-**

PS E:\Dynamix> cd MDS-7

PS E:\Dynamix\MDS-7> python client.py

Waiting for connection

Your message: hi **# printing unique values of division in range 1-5**

B

A

Your message:

**Client2 output:-**

PS E:\Dynamix> cd MDS-7

PS E:\Dynamix\MDS-7> python client.py

Waiting for connection

Your message: hi **# sorting the data based on the cgpa**

(id,div,branch,cgpa)

9 B CSE 10.0

8 B CSE 9.7

10 A IT 9.0

7 B ENTC 7.7

6 A ENTC 5.0

**Client 3 output:-**

PS E:\Dynamix> cd MDS-7

PS E:\Dynamix\MDS-7> python client.py

Waiting for connection

Your message: hi **#selecting unique values of branch in range 11-15**

IT

ENTC

CSE