**PSG COLLEGE OF TECHNOLOGY**

**DEPARTMENT OF APPLIED MATHEMATICS AND COMPUTATIONAL SCIENCES**

**COMPUTER NETWORKS LAB**

20XC46 COMPUTER NETWORKS LAB

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### 20XW46 COMPUTER NETWORKS AND TCP/IP LAB

### Problem Sheet-2

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* 20pw35

1. Develop a UDP-based client-server socket program for transferring a file.
2. Develop a simple banking application that allows the server to record deposits and withdrawals to an account specified by the client.

**Client**

import socket

c=socket.socket(socket.AF\_INET,socket.SOCK\_DGRAM)

serverAddr=('localhost',9999)

opt='y'

while opt=='y' or opt=='Y':

msg=input("Enter the message to be sent: ")

c.sendto(bytes(msg,"utf-8"),serverAddr)

Servermsg=c.recvfrom(1024)

print("Message from Server: ",Servermsg[0].decode())

op=input("Do you want to continue: ")

opt=op

**Server**

import socket

s=socket.socket(socket.AF\_INET,socket.SOCK\_DGRAM)

s.bind(('localhost',9999))

print("Server waiting")

while True:

cData=s.recvfrom(1024)

msg = cData[0]

cIp = cData[1]

print("Server is connected with : ",cIp)

print("Message from client: ",msg.decode())

s.sendto(msg,cData[1])

s.close()

Q1 ..

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| SERVER  import socket  s=socket.socket(socket.AF\_INET,socket.SOCK\_DGRAM)  s.bind((socket.gethostname(),9999))  print("Server waiting")  f=open("dog.jpg","wb")  data,addre=s.recvfrom(1024)  while data:  f.write(data)  data,addre=s.recvfrom(1024)  f.close()  s.close() |
| CLIENT  import socket  c=socket.socket(socket.AF\_INET,socket.SOCK\_DGRAM)  serverAddr=((socket.gethostname(),9999))  f=open("img.jpg","rb")  data=f.read(1024)  while data:  c.sendto(data,serverAddr)  data=f.read(1024)  c.sendto(data,serverAddr)  f.close()  c.close() |

Q2

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| Server:  import socket  s=socket.socket(socket.AF\_INET,socket.SOCK\_DGRAM)  s.bind((socket.gethostname(),9999))  print("Server waiting")  BUFFER\_SIZE = 1024  file = open('info.txt')  clients = file.readlines()  d = {}  for i in clients:  si = i.strip('\n').split(':')  d[si[0]] = float(si[1])  file.close()  msg,cIp=s.recvfrom(1024)  msg = msg.decode()  print("Server is connected with : ",cIp)  if msg not in d:  d[msg] = 0  print(f'Account create for {msg}')  else:  print("Account already exists")    while True:    msg,cIp=s.recvfrom(1024)  name,amt,choice = msg.decode().split(',')  if choice == '1':  amt = float(amt)  if d[name] - amt >0:  d[name]-=float(amt)  s.sendto(f'Withdraw successful!\nCurrent balance: {d[name]}'.encode(),cIp)  else:  s.sendto('Insufficient funds!'.encode(),cIp)    elif choice == '2':  d[name] += float(amt)  s.sendto(f'Deposit successful!\nCurrent balance: {d[name]}'.encode(),cIp)  else:  break  file = open('info.txt','w')  for i in d:  file.write(f'{i}:{d[i]}\n')  file.close() |
| Client :  #client  import socket  s=socket.socket(socket.AF\_INET,socket.SOCK\_DGRAM)  serverAddr=((socket.gethostname(),9999))  name = input('Enter name:')  s.sendto(name.encode(),serverAddr)  while True:  print("\n\n1. Withdraw\n2. Deposit\n3.Exit")  choice = int(input("Enter your choice: "))  if choice == 1:  amt = input("Enter amount to withdraw: ")  if amt.isdecimal():  s.sendto(f'{name},{amt},{choice}'.encode(),serverAddr)  reply,cIp=s.recvfrom(1024)  print(reply.decode())    else:  print("\nInvalid Entry!")  continue  elif choice == 2:  amt = input("Enter amount to deposit: ")  if amt.isdecimal():  s.sendto(f'{name},{amt},{choice}'.encode(),serverAddr)  reply,cIp=s.recvfrom(1024)  print(reply.decode())  else:  print("\nInvalid En try!")  continue    elif choice == 3:  s.sendto(f'{name},{0},{choice}'.encode(),serverAddr)  break    else:  print("\nEnter correct choice")    s.close() |