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14 Write a program for congestion control using leaky bucket algorithm

```
import java.util.*;  
  
class leakybucket  
{  
    public static void main (String []  
        args)  
    {  
        int rem;  
  
        Scanner sc = new Scanner (System.in);  
        int s20;  
  
        System.out.println ("enter no. of  
        queries, buffer size, input and  
        output bucket size");  
  
        int q = sc.nextInt();  
        int bS = sc.nextInt();  
        int ip = sc.nextInt();  
        int op = sc.nextInt();  
  
        for (int i = 0; i < q; i++)  
        {  
            rem = bS - s;  
            if (ip <= (rem))  
            {  
                // process  
            }  
        }  
    }  
}
```

15 Using TCP/IP sockets, write a client-server program to make client sending the file name and server to send back the contents.

ClientTCP.py

```
from socket import *
serverName = '127.0.0.1'
serverPort = 12000
clientSocket = socket (AF_INET, SOCK_STREAM)
clientSocket.connect ((serverName, serverPort))
sentence = input ("In Put file name : ")
clientSocket.send (sentence.encode ())
filecontents = clientSocket.recv (1024).decode()
print ('From Server : \n')
print (filecontents)
clientSocket.close ()
```

ServerTCP.py

```
from socket import *
serverName = "127.0.0.1"
serverPort = 12000
serverSocket = socket (AF_INET, SOCK_STREAM)
serverSocket.bind ((serverName, serverPort))
serverSocket.listen (1)
while 1:
    print ("This server is ready to receive")
    connectionSocket, addr = serverSocket.accept()
    sentence = connectionSocket.recv (1024).decode()
    file = open (sentence, "r")
```

```
l = file.read(1024)
connectionSocket.send(l.decode())
print('In Sent contents of ' + sentence)
file.close()
connectionSocket.close()
```

Output

The ServerTCP.py:-
The server is ready to receive

send contents of severTCP.py
The server is ready to receive

ClientTCP.py
Run file name: sever TCP.py

From server.

```
from socket import *
serverName = "127.0.0.1"
serverPort = 12000
serverSocket = socket(AF_INET, SOCK_STREAM)
serverSocket.bind((serverName, serverPort))
serverSocket.listen(1)
while 1:
    print("The server is ready to receive")
    connectionSocket, addr = serverSocket.accept()
    sentence = connectionSocket.recv(1024).decode()
    file = open(sentence, "r")
    l = file.read(1024)
```

connectionSocket.send (f.encode ())
print ("In Sent contents of sentence")
file.close ()
connectionSocket.close ()

File

File download

19/10/2021

The image shows two side-by-side terminal windows, both titled "D:\Python311\14".

Terminal 1 (Left):

```
File Edit Shell Debug Options Window Help
Python 3.11.4 [tags/v3.11.4:d1d34def, Jun  7 2023, 05:45:37] |MSC v.1934 64 bit (AMD64) | on win32
Type "help", "copyright", "credits" or "license()" for more information.

>>> ===== RESTART: C:\Users\Admin\Desktop\item21os\clientTCP.py =====
Enter file name:ServerTCP.py
FileNotFoundError: [Errno 2] No such file or directory: 'ServerTCP.py'
>>>
```

Terminal 2 (Right):

```
File Edit Shell Debug Options Window Help
Python 3.11.4 [tags/v3.11.4:d1d34def, Jun  7 2023, 05:45:37] |MSC v.1934 64 bit (AMD64) | on win32
Type "help", "copyright", "credits" or "license()" for more information.

>>> ===== RESTART: C:\Users\Admin\Desktop\item21os\ServerTCP.py =====
The server is ready to receive
Sent contents of ServerTCP.py
The server is ready to receive
```