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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  
            }  
        }  
    }  
}
```

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Tool Exploration - Wireshark

Wireshark is an open source packet analyzer which is used for education analysis, software development, communication protocol development and network troubleshooting.

so that each one is filtered to meet our specific needs. It is commonly called as a sniffer network protocol analyzer network analyzer. It is also used by network security engineers to examine security problems.

Wireshark is a free application used to apprehend data back and forth. It is also called as live packet sniffer computer application, puts through network card into a unselective mode, i.e. to accept all packets which it receives.

Uses :-

- It is used by network security engineers to examine security problems.
- It is used by network engineers to troubleshoot network issues.
- It is also used to analyze dropped packets.

It helps to troubleshoot latency and malicious activities on the network.

- It helps us to know how all devices like laptop, mobile phones, desktop switch, routers communicate in a network or the rest of the world.

Functionality of Wireshark:

It is similar to a TCP dump in networking. It has a graphical user interface. It also monitors the unicast traffic which is not sent to networks' MAC address nil:ff:ff. The port mirroring is a method to monitor network traffic. When it is enabled switch sends copies of all network packets present at one port to another port.

Feature of Wireshark:

- It is a multi-platform software, i.e., it can run on Linux, Windows, OS X, FreeBSD, NetBSD etc.
- It is a standard file based packet viewer.
- It performs deep inspection of protocols.
- It even has cut and filter options which make it easy to user to view the data.
- It can capture raw USB traffic.
- It is helpful in IP analysis.
- It also shows live analysis, i.e. from different types of network like Ethernet, Tapback etc. through which we can read live data.

