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Pg. No.:53	
Date:	

Paractical	Congestion control protocols: Leaky Bucket
14	J provosti provosti
*	Objective
	To Simulate the Leaky Bucket algorithm for network traffic shaping, managing packet flow to avoid congestion by controlling the transmission rate and bucket size.
	network truffic shaping, managing packet
	flow to avoid congestion by controlling
	the triansmission rate and bucket size
*	Cocle
	#include < stdio.h>
	#include <stdlib.h></stdlib.h>
	#include < unistd.h >
	int main () {
	int i, puckets [70], content = 0, newcontent.
	time, clk, bucket-size, output-grate;
· ·	
	for Ci=0; i < 5; i++)
	\$
	packets [i] = 97and() % 10;
	if Cpackets[i] == 0)
	3
	J J
	10 cm 5 /co 1 1 2 2c 1/2 1 2 2pd; ").
	printf ("In Enter output ricite of the bucket:");
	Scanf C"%od", & output state);
	11 C" In F-100 D 1-1101 cize: "].
	printf C" \n Enter Bucket size: "Э;

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	Scanf ("%d", & bucket_size);
	for Ci = 0; i < 5; ++ i)
	· ·
	if CC packets [i] + content) > bucket_size)
-	5
	if C packets [i] > bucket _ size)
	printf ("In Incoming packet size %od
	greater than the size of the
	bucket \n", puckets [i]);
	else
	printf C"In Bucket size exceeded In ");
	3
	else
	€
	newcontent = packets[i];
	content += newcontent;
	printf C"In Incoming Packet: % d In",
	ne w Content);
	printf C" Transmission left: % d\n"
	content D;
	time = 97 and C) % 10;
	perintf (" Newxt packet will come at:
	% d\n", time);
	for C clk = 0; clk < time && content > 0;
	++ c K)
	<i>ξ</i>
	paintf C"Inleft time: "ocl", Ctime-clk);
	sleep CI);
11	

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if C content >0)
5
paintf ("In Transmitted \n");
printf C"\n Transmitted \n"); if C content < output_rate)
content = 0;
else
content -= output_nate;
content -= output_nate; printf("Bytes nemaining: %d\n", content);
content);
3
else
<i>§</i>
printf ("In No packets to send \n");
 9
 3
 2
 3
netunn 0;
 Output
Thomas I ambout the
Enter output nate of the bucket: 4
Enten Bucket size: 10
Enter Bucket Size . 10
The aming Parklet: (
Incoming Packet: 6 Transmission left: 6
Next packet will come at : 5
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	Left time: 5
	Teransmitted
	Bytes nemaining: 2
	J - is marning - c
-	Left time: 4
, ,	Thansmitted
	Bytes nemaining:0
	JJ
· · · · · · · · · · · · · · · · · · ·	Left time: 3
	Left time: 2
	Left time: 1
·	
	Incoming Packet: 3 Transmission Left: 3
	Torunsmission Left: 3
	Next packet will come at: 2
	1.21 1
	Left time: 2
	Prinsmitted
·	Boytes nemaining:0
	18t Left time: I
	Lester to time. I
	Incoming Packet: 8
	Incoming Packet: 8 Bucket size exceeded
	Incoming Packet: 1
,	Incoming Packet: 1 Transmission left: 1
	Next packet will come at: 4
	Left time:4
~	Transmitted
	Bytes nemaining:0

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S. No.
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	Left time: 3
	Left Lime: 2
	Left time: 1
	Incoming Packet:5
	Incoming Packet: 5 Transmission left: 5
	Next packet will come at: 3
	Left time: 3
	Tenansmitte
	Bytes memaining: 1
	J
	Left time: 2
	Transmitted
	Bytes nemaining:0
	Left Lime: 1
<u>*</u>	Leagning Outcome
	J
	Simulate traffic shaping using the leaky Bucket algorithm.
	Bucket algorithm.
	·