NAME : Subhas Rajakumar Sajjan

USN :1BM19CS162

LEAKY BUCKET:

```c
#include<stdio.h>
#include<stdlib.h>
#include<unistd.h>
#define NOF_PACKETS 5

int main()
{
int packet_sz[NOF_PACKETS], i, clk, b_size, o_rate, p_sz_rm=0, p_sz, p_time, op;
for(i = 0; i<NOF_PACKETS; ++i)
packet_sz[i] = random() % 100;
for(i = 0; i<NOF_PACKETS; ++i)
printf("\npacket[%d]:%d bytes\t", i, packet_sz[i]);
printf("\nEnter the Output rate:");
scanf("%d", &o_rate);
printf("Enter the Bucket Size:");
scanf("%d", &b_size);
for(i = 0; i<NOF_PACKETS; ++i)
{
if( (packet_sz[i] + p_sz_rm) > b_size)
if(packet_sz[i] > b_size)/*compare the packet siz with bucket size*/
printf("\n\nIncoming packet size (%dbytes) is Greater than bucket capacity (%d bytes)-PACKET REJECTED", packet_sz[i], b_size);
else
printf("\n\nBucket capacity exceeded-PACKETS REJECTED!!");
else
{
p_sz_rm += packet_sz[i];
```

```c
printf("\n\nIncoming Packet size: %d", packet_sz[i]);
printf("\nBytes remaining to Transmit: %d", p_sz_rm);

while(p_sz_rm>0)
{
sleep(1);
if(p_sz_rm)
{
if(p_sz_rm <= o_rate)
op = p_sz_rm, p_sz_rm = 0;
else
op = o_rate, p_sz_rm -= o_rate;

printf("\nPacket of size %d Transmitted", op);
printf("----Bytes Remaining to Transmit: %d", p_sz_rm);
}
else
{
printf("\nNo packets to transmit!!");
}
}
}
}
}
```

OUTPUT:

```
packet[0]:83 bytes
packet[1]:86 bytes
packet[2]:77 bytes
packet[3]:15 bytes
packet[4]:93 bytes
Enter the Output rate:5
Enter the Bucket Size:20


Incoming packet size (83bytes) is Greater than bucket capacity (20 bytes)-PACKET REJECTED

Incoming packet size (86bytes) is Greater than bucket capacity (20 bytes)-PACKET REJECTED

Incoming packet size (77bytes) is Greater than bucket capacity (20 bytes)-PACKET REJECTED

Incoming Packet size: 15
Bytes remaining to Transmit: 15
Packet of size 5 Transmitted----Bytes Remaining to Transmit: 10
Packet of size 5 Transmitted----Bytes Remaining to Transmit: 5
Packet of size 5 Transmitted----Bytes Remaining to Transmit: 0

Incoming packet size (93bytes) is Greater than bucket capacity (20 bytes)-PACKET REJECTED
```