```c
//B20CS1130
//Experiment 12
//Leaky Bucket

#include <stdio.h>

int main(){
        int incoming,outgoing,buck_size,n,store=0;
        printf("Enter the bucket size: ");
        scanf("%d",&buck_size);
        printf("Enter the outgoing rate: ");
        scanf("%d",&outgoing);
        printf("Enter the number of inputs: ");
        scanf("%d",&n);
        while(n!=0){
                printf("\nEnter the incoming packet size: ");
                scanf("%d",&incoming);
                printf("\nIncoming packet size: %d",incoming);
                if(incoming<=(buck_size-store)){
                        store+=incoming;
                        printf("\nBucket buffer size %d out of %d",store,buck_size);
                }
                else{
                        printf("\nDropped %d number of packets",incoming-(buck_size-store));
                        printf("\nBucket buffer size %d out of %d",store,buck_size);
                        store=buck_size;
                }
                store=store-outgoing;
                printf("\nAfter outgoing %d packets left of %d in buffer\n",store,buck_size);
                n--;
        }
}

/*
OUTPUT
s6cs130@comp62:~$ gcc 12.lb.c
s6cs130@comp62:~$ ./a.out
Enter the bucket size: 20
Enter the outgoing rate: 3
Enter the number of inputs: 4

Enter the incoming packet size: 7

Incoming packet size: 7
```

Bucket buffer size 7 out of 20
After outgoing 4 packets left of 20 in buffer

Enter the incoming packet size: 8

Incoming packet size: 8
Bucket buffer size 12 out of 20
After outgoing 9 packets left of 20 in buffer

Enter the incoming packet size: 9

Incoming packet size: 9
Bucket buffer size 18 out of 20
After outgoing 15 packets left of 20 in buffer

Enter the incoming packet size: 2

Incoming packet size: 2
Bucket buffer size 17 out of 20
After outgoing 14 packets left of 20 in buffer
*/