

**AIM: Write a program to implement congestion control using leaky bucket algorithm**

**PROGRAM:**

```
#include <stdio.h>

#include <stdlib.h> // For rand() in a more complex scenario, though not strictly needed here

int main() {

    int incoming, outgoing, bucket_size, n, store = 0;


    printf("Enter bucket size, outgoing rate (packets/unit time), and number of incoming packet bursts: ");

    scanf("%d %d %d", &bucket_size, &outgoing, &n);


    while (n > 0) {

        printf("\nEnter the incoming packet size for this burst: ");

        scanf("%d", &incoming);


        printf("Incoming packet size: %d\n", incoming);


        // Check if incoming packets can fit in the bucket

        if (incoming <= (bucket_size - store)) {

            store += incoming;

            printf("Packet added to bucket. Current bucket buffer size: %d out of %d\n", store, bucket_size);

        } else {

            int dropped_packets = incoming - (bucket_size - store);

            printf("Bucket overflow! Dropped %d packets.\n", dropped_packets);

            store = bucket_size; // Bucket is full

            printf("Current bucket buffer size: %d out of %d\n", store, bucket_size);

        }


        // Simulate outgoing packets
```

```

store -= outgoing;

if (store < 0) {
    store = 0; // Ensure bucket content doesn't go below zero
}

printf("After outgoing packets, %d packets left in buffer out of %d\n", store,
bucket_size);

n--;
}

return 0;
}

```

## OUTPUT:

```

Enter bucket size, outgoing rate (packets/unit time), and number of
incoming packet bursts: 3
2
5

Enter the incoming packet size for this burst: 3
Incoming packet size: 3
Packet added to bucket. Current bucket buffer size: 3 out of 3
After outgoing packets, 1 packets left in buffer out of 3

Enter the incoming packet size for this burst: 2
Incoming packet size: 2
Packet added to bucket. Current bucket buffer size: 3 out of 3
After outgoing packets, 1 packets left in buffer out of 3

Enter the incoming packet size for this burst: 1
Incoming packet size: 1
Packet added to bucket. Current bucket buffer size: 2 out of 3
After outgoing packets, 0 packets left in buffer out of 3

Enter the incoming packet size for this burst: |

```