

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: |

```