Program 2

i. Write a program for congestion control using Leaky bucket algorithm

ii. Procedure

```
#include <stdio.h>

int main() {
    int no_of_queries, storage, output_pkt_size;
    int input_pkt_size, bucket_size, size_left;
    storage = 0;
    no_of_queries = 4;
    bucket_size = 10;
    input_pkt_size = 4;
    output_pkt_size = 1;

    for (int i = 0; i < no_of_queries; i++) {
        size_left = bucket_size - storage;

        if (input_pkt_size <= size_left) {
            // Update storage
            storage += input_pkt_size;
        } else {
            printf("Packet loss = %d\n", input_pkt_size);
        }

        printf("Buffer size = %d out of bucket size = %d\n",
               storage, bucket_size);

        // Packets leaving the bucket
        storage -= output_pkt_size;

        // Ensure storage doesn't go negative
        if (storage < 0) {
            storage = 0;
        }
    }

    return 0;
}
```

iii. Screen shots/ output

```
D:\cpp\Untitled1.exe
Buffer size = 4 out of bucket size = 10
Buffer size = 7 out of bucket size = 10
Buffer size = 10 out of bucket size = 10
Packet loss = 4
Buffer size = 9 out of bucket size = 10

Process returned 0 (0x0)   execution time : 0.059 s
Press any key to continue.
```

iv. Observation