

## CYCLE 2 PROGRAM 2

Write a program for congestion control using Leaky bucket algorithm.

Code:

```
#include <stdio.h>
#include <stdlib.h> // Include this for the rand() function

int main() {
    int buckets, outlets, k = 1, num, remaining;

    printf("Enter Bucket size and outstream size\n");
    scanf("%d %d", &buckets, &outlets);
    remaining = buckets;

    while (k) {
        num = rand() % 1000; // Generate a random number between 0
and 999
        if (num < remaining) {
            remaining = remaining - num;
            printf("Packet of %d bytes accepted\n", num);
        } else {
            printf("Packet of %d bytes is discarded\n", num);
        }

        if (buckets - remaining > outlets) {
            remaining += outlets;
        } else {
            remaining = buckets;
        }

        printf("Remaining bytes: %d \n", remaining);
        printf("If you want to stop input, press 0, otherwise, press 1\n");
```

```
    scanf("%d", &k);  
}  
  
while (remaining < buckets) {  
    if (buckets - remaining > outlets) {  
        remaining += outlets;  
    } else {  
        remaining = buckets;  
    }  
  
    printf("Remaining bytes: %d \n", remaining);  
}  
  
return 0;  
}
```

## Output:

```
PS D:\VS Code> cd "d:\VS Code\OS\" ; if ($?) { gcc bucket.c -o bucket } ; if ($?) { .\bucket }
Enter Bucket size and outstream size
2000
100
Packet of 41 bytes accepted
Remaining bytes: 2000
If you want to stop input, press 0, otherwise, press 1
1
Packet of 467 bytes accepted
Remaining bytes: 1633
If you want to stop input, press 0, otherwise, press 1
1
Packet of 334 bytes accepted
Remaining bytes: 1399
If you want to stop input, press 0, otherwise, press 1
1
Packet of 500 bytes accepted
Remaining bytes: 999
If you want to stop input, press 0, otherwise, press 1
1
Packet of 169 bytes accepted
Remaining bytes: 930
If you want to stop input, press 0, otherwise, press 1
1
Packet of 724 bytes accepted
Remaining bytes: 306
If you want to stop input, press 0, otherwise, press 1
1
Packet of 478 bytes is discarded
Remaining bytes: 406
If you want to stop input, press 0, otherwise, press 1
1
Packet of 358 bytes accepted
Remaining bytes: 148
If you want to stop input, press 0, otherwise, press 1
1
Packet of 962 bytes is discarded
Remaining bytes: 248
If you want to stop input, press 0, otherwise, press 1
0
```

```
Remaining bytes: 348
Remaining bytes: 448
Remaining bytes: 548
Remaining bytes: 648
Remaining bytes: 748
Remaining bytes: 848
Remaining bytes: 948
Remaining bytes: 1048
Remaining bytes: 1148
Remaining bytes: 1248
Remaining bytes: 1348
Remaining bytes: 1448
Remaining bytes: 1548
Remaining bytes: 1648
Remaining bytes: 1748
Remaining bytes: 1848
Remaining bytes: 1948
Remaining bytes: 2000
PS D:\VS Code\OS> █
```