

## Experiment 14:

Write a program for congestion control using Leaky bucket algorithm.

```

Date: 17/8/23
Page:

2. Write a program for congestion control using leaky bucket algorithm.

#include <stdio.h>

void main() {
    int psize, bsize, outgoing, emptySpace, choice;
    printf("Enter the bucket size: ");
    scanf("%d", &bsize);
    emptySpace = bsize;
    printf("Enter the outgoing rate: ");
    scanf("%d", &outgoing);
    while (1) {
        printf("Enter the packet size: ");
        scanf("%d", &psize);
        if (psize < bsize && psize <= emptySpace) {
            emptySpace = emptySpace - psize;
            printf("The packet of size %d is added and in the bucket \n", psize);
            emptySpace += outgoing;
        }
        else {
            printf("Packet of size %d is dropped due to lack of space in the bucket \n", psize);
        }
        printf("\n Enter 1 to continue or 0 to stop: ");
        scanf("%d", &choice);
        if (choice == 0)
            break;
    }
}
```

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Output:

Enter the bucket size: 5000

Enter the outgoing rate: 200

Enter the packet size: 3000

The packet of size 3000 is added in the bucket.

Enter 1 to continue or 0 to stop: 1

Enter the packet size: 2000

The packet of size 2000 is added and in the bucket

Enter 1 to continue or 0 to stop: 1

Enter the packet size: 1500

The packet of size 15000 is dropped due to lack of space in the bucket

Enter 1 to continue or 0 to stop: 0

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## Screenshots:

```
1  #include <stdio.h>
2
3  void main()
4  {
5      int psize, bsize, outgoing, emptyspace, choice;
6      printf("Enter the Bucket size = ");
7      scanf("%d", &bsize);
8      emptyspace = bsize;
9      printf("Enter the outgoing rate = ");
10     scanf("%d", &outgoing);
11     while (1)
12     {
13         printf("\nEnter the packet size = ");
14         scanf("%d", &psize);
15         if (psize <= bsize && psize <= emptyspace)
16         {
17             emptyspace = emptyspace - psize;
18             printf("The Packet of size %d is added and in the bucket \n", psize);
19         }
20         else
21             printf("The Packet of size %d is dropped due to lack of space in the bucket\n");
22         if ((emptyspace + outgoing) < bsize)
23             emptyspace += outgoing;
24         else if (bsize - emptyspace > 0)
25             emptyspace = bsize;
26         printf("\nEnter 1 to Continue or 0 to Stop: ");
27         scanf("%d", &choice);
28         if (choice == 0)
29             break;
30     }
31 }
```

```
PS D:\BMSCE\Academics\Semester IV\Computer networks\Lab\Leaky bucket> gcc leakybucket.c -o leakybucket
PS D:\BMSCE\Academics\Semester IV\Computer networks\Lab\Leaky bucket> ./leakybucket
Enter the Bucket size = 5000
Enter the outgoing rate = 200

Enter the packet size = 3000
The Packet of size 3000 is added and in the bucket

Enter 1 to Continue or 0 to Stop: 1

Enter the packet size = 2000
The Packet of size 2000 is added and in the bucket

Enter 1 to Continue or 0 to Stop: 1

Enter the packet size = 1500
The Packet of size 1500 is dropped due to lack of space in the bucket

Enter 1 to Continue or 0 to Stop: 0
PS D:\BMSCE\Academics\Semester IV\Computer networks\Lab\Leaky bucket> |
```