

12/8/23

Write a program for congestion control using Leaky bucket algorithm.

```
#include <stdio.h>
```

```
int main()
```

```
{ int in, out, bsize, n, available = 0;
```

```
printf("Enter the bucket size: ");
```

```
scanf("%d", &bsize);
```

```
printf("Enter the outgoing rate: ");
```

```
scanf("%d", &out);
```

```
printf("Enter the no of inputs: ");
```

```
scanf("%d", &n);
```

```
while (n != 0)
```

```
{ printf("Enter the incoming packet size: ");
```

```
scanf("%d", &in);
```

```
printf("Incoming packet size %d\n", in);
```

```
if (in <= (bsize - available))
```

```
{ available += in;
```

```
printf("Bucket buffer size %d out of %d\n", available, bsize);
```

```
}
```

```
else
```

```
{ printf("Dropped %d no. of packets\n",
```

```
in - (bsize - available));
```

```
printf("Bucket buffer size %d out of %d\n", available, bsize);
```

```
available = bsize;
```

```
}
```

```
available = available - out;
```

```
printf("After outgoing %d packets left out of %d in buffer\n", available, bsize);
```

```
n--;
```

```
}
```

```
}
```

20/10/17

Enter the bucket size: 1000

Enter the outgoing rate: 200

Enter the no. of inputs: 6

Enter the incoming packet size: 200

Incoming packet size 200

Bucket buffer size 200 out of 1000

After outgoing 0 packets left out of 1000 in buffer

Enter the incoming packet size: 400

Incoming packet size 400

Bucket buffer size 400 out of 1000

After outgoing 200 packets left out of 1000 in buffer

Enter the incoming packet size: 450

Incoming packet size 450

Bucket buffer size 650 out of 1000

After outgoing 450 packets left out of 1000 in buffer

Enter the incoming packet size: 500

Incoming packet size 500

Bucket buffer size 950 out of 1000

After outgoing 750 packets left out of 1000 in buffer

Enter the incoming packet size: 100

Bucket buffer size 850 out of 1000

After outgoing 650 packets left out of 1000 in buffer

Enter the incoming packet size: 0

Bucket buffer size 650 out of 1000

After outgoing 450 packets left out of 1000 in buffer

Enter the bucket size: 1000

Enter the outgoing rate: 500

Enter the no. of inputs: 1

Enter the incoming packet size: 2000

Incoming packet size 2000

Dropped 1000 no. of packets

Bucket buffer size 0 out of 1000

After outgoing 500 packets left out of 1000 in buffer

```
1 #include<stdio.h>
2
3 int main(){
4     int in, out, bsize, n, available = 0;
5     printf("Enter the bucket size: ");
6     scanf("%d", &bsize);
7     printf("Enter the outgoing rate: ");
8     scanf("%d", &out);
9     printf("Enter the no of inputs: ");
10    scanf("%d", &n);
11
12    while (n != 0) {
13        printf("Enter the incoming packet size : ");
14        scanf("%d", &in);
15        printf("Incoming packet size %d\n", in);
16        if (in <= (bsize - available)){
17            available += in;
18            printf("Bucket buffer size %d out of %d\n", available, bsize);
19        } else {
20            printf("Dropped %d no of packets\n", in - (bsize - available));
21            printf("Bucket buffer size %d out of %d\n", available, bsize);
22            available = bsize;
23        }
24        available = available - out;
25        printf("After outgoing %d packets left out of %d in buffer\n", available, bsize);
26        n--;
27    }
28 }
```



Enter the bucket size: 1000  
Enter the outgoing rate: 200  
Enter the no of inputs: 6  
Enter the incoming packet size : 200  
Incoming packet size 200  
Bucket buffer size 200 out of 1000  
After outgoing 0 packets left out of 1000 in buffer  
Enter the incoming packet size : 400  
Incoming packet size 400  
Bucket buffer size 400 out of 1000  
After outgoing 200 packets left out of 1000 in buffer  
Enter the incoming packet size : 100  
Incoming packet size 100  
Bucket buffer size 300 out of 1000  
After outgoing 100 packets left out of 1000 in buffer  
Enter the incoming packet size : 300  
Incoming packet size 300  
Bucket buffer size 400 out of 1000  
After outgoing 200 packets left out of 1000 in buffer  
Enter the incoming packet size : 2000  
Incoming packet size 2000  
Dropped 1200 no of packets  
Bucket buffer size 200 out of 1000  
After outgoing 800 packets left out of 1000 in buffer  
Enter the incoming packet size : 200  
Incoming packet size 200  
Bucket buffer size 1000 out of 1000  
After outgoing 800 packets left out of 1000 in buffer