

WEEK 14

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); // Added missing
variable
        }
        else
        {
            printf("Packet of %d bytes is discarded\n", num);
        }
        if (buckets - remaining > outlets)
        {
            remaining += outlets; // Fixed the calculation
        }
        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) // Fixed the condition
    {
        if (buckets - remaining > outlets)
        {
            remaining += outlets; // Fixed the calculation
        }
        else
            remaining = buckets;
        printf("Remaining bytes: %d \n", remaining);
    }
    return 0; // Added a return statement to indicate successful completion
}

```

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

```

```
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> █
```

OBSERVATION:

Aim:-

write a program for congestion control
using leaky bucket algorithm

Code:-

```
#include <stdio.h>
#include <stdlib.h>
int main()
{
    int buckets, outlets, k=1, num, remaining;
    printf("Enter Bucket size and The outstream  
size");
    scanf("%d %d", &buckets, &outlets);
    remaining = buckets;

    while (k)
    {
        num = rand() % 1000;
        if (num < remaining)
        {
            remaining = remaining - num;
            printf("Packets of %d bytes are accepted",  
num);
        }
        else
        {
            printf("Packet of %d bytes is discarded",  
num);
        }
    }
}
```

DATE: PAGE:

```

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

else
    remaining = buckets;
printf("Remaining bucket: %d\n", remaining);
printf("If you want to stop input press 0, else press 1");
scanf("%d", &k);
}

while (remaining < buckets)
{
    if (buckets - remaining > outlets)
    {
        remaining += outlets;
    }
    else
    {
        remaining = buckets;
    }
    printf("Remaining byte: %d", remaining);
}

return 0;
}

```

Output

Enter Bucket ~~Size~~ Size and Outstream Size

1000 200

Packets of 41 bytes are accepted
Remaining bytes 1100

if you want to stop input press 0, otherwise press 1

Packets of 467 bytes are accepted
Remaining bytes 233

if you want to stop input press 0, otherwise press 1

Packets of 334 bytes are accepted
Remaining bytes 599

10/2/2023