**Cycle - 2**

**(Experiment - 2)**

**Question:**

Write a program for congestion control using Leaky bucket algorithm.

**Program:**

#include <stdio.h>

#include <stdlib.h>

struct packet

{

int time;

int size;

} p[50];

int main()

{

int i, n, m, k = 0;

int bsize, bfilled, outrate;

printf("Enter the number of packets:");

scanf("%d", &n);

printf("Enter packets in the order of their arrival time\n");

for (i = 0; i < n; i++)

{

printf("Enter the time and size:");

scanf("%d%d", &p[i].time, &p[i].size);

}

printf("Enter the bucket size:");

scanf("%d", &bsize);

printf("Enter the output rate:");

scanf("%d", &outrate);

m = p[n - 1].time;

i = 1;

k = 0;

bfilled = 0;

while (i <= m || bfilled != 0)

{

printf("\n\nAt time %d", i);

if (p[k].time == i)

{

if (bsize >= bfilled + p[k].size)

{

bfilled = bfilled + p[k].size;

printf("\n%dbyte packet is inserted", p[k].size);

k = k + 1;

}

else

{

printf("\n%dbyte packet is discarded", p[k].size);

k = k + 1;

}

}

if (bfilled == 0)

{

printf("\nNo packets to transmitte");

}

else if (bfilled >= outrate)

{

bfilled = bfilled - outrate;

printf("\n%dbytes transfered", outrate);

}

else

{

printf("\n%dbytes transfered", bfilled);

bfilled = 0;

}

printf("\nPackets in the bucket %d byte", bfilled);

i++;

}

return 0;

}

**Output:**

