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

```
import java.util.Scanner;
public class LeakyBucket {

public static void main(String[] args) throws InterruptedException {

int n, incoming, outgoing, store=0, bucketsize;
Scanner scan = new Scanner(System.in);
System.out.println("Enter bucket size, outgoing rate, number of inputs and incoming size");

  bucketsize = scan.nextInt();
  outgoing = scan.nextInt();
  n = scan.nextInt();
  incoming = scan.nextInt();

  while(n!=0)
  {
     System.out.println("Incoming size is " + incoming);
     if(incoming <= (bucketsize-store))
     {
        store+=incoming;
        System.out.println("Bucket buffer size is  " + store +" out of " + bucketsize);
     }
          else
          {
             System.out.println("Packet loss : " + (incoming-(bucketsize-store)));

             store=bucketsize;

             System.out.println("Bucket buffer size is  " + store +" out of " + bucketsize);
           }

             store-=outgoing;

            System.out.println("After outgoing: " + store + " packets left out of " + bucketsize
                                    + "in buffer");

            n--;
            Thread.sleep(3000);
     }
            scan.close();
  }
}
```

Output:

```
krishnas-MacBook-Pro:programs krishna$ javac LeakyBucket.java
krishnas-MacBook-Pro:programs krishna$ java LeakyBucket
Enter bucket size, outgoing rate, number of inputs and incoming size
300
50
2
200
Incoming size is 200
Bucket buffer size is  200 out of 300
After outgoing: 150 packets left out of 300in buffer
Incoming size is 200
Packet loss : 50
Bucket buffer size is  300 out of 300
After outgoing: 250 packets left out of 300in buffer
```