Leaky Bucket Algorithm:

import java.util.Scanner; // Import the Scanner class for taking input from the user

public class Leaky {

// Declare and initialize the bucket size (max capacity in bytes)

public static int bucketSize = 1000;

// Declare and initialize the output rate (rate at which data is sent in bytes)

public static int outputRate = 100;

// Method to simulate sending a packet of a given size

public static void sendPacket(int pktSize) {

// If the incoming packet size is larger than the bucket capacity

if (pktSize > bucketSize) {

// Show overflow message (packet cannot be accepted)

System.out.println("Bucket OverFlow");

} else {

// While the packet size is greater than what can be sent at one time

while (pktSize > outputRate) {

// Send outputRate bytes and print message

System.out.println(outputRate + " bytes of packet is sent");

// Reduce the packet size by outputRate

pktSize = pktSize - outputRate;

}

// Send the remaining part of the packet (less than outputRate)

System.out.println(pktSize + " bytes of packet is sent");

}

}

// Main method - program execution starts here

public static void main(String[] args) {

// Create Scanner object to take input from user

Scanner scanner = new Scanner(System.in);

// Ask user to enter number of packets

System.out.print("Enter the no of packets: ");

int numpackets = scanner.nextInt(); // Read number of packets

// If there are packets to send

if (numpackets > 0) {

// Loop through each packet

for (int i = 1; i <= numpackets; i++) {

// Ask user to enter size of each packet

System.out.print("Enter the packet " + i + " size : ");

int pktSize = scanner.nextInt(); // Read packet size

sendPacket(pktSize); // Call method to send packet

}

} else {

// If no packets are entered, show this message

System.out.println("No Packets to Send");

}

}

}