**CODE:**

#include <stdio.h>

int bucket\_size, output\_rate, num\_packets;

int packet\_sizes[100];

void leaky\_bucket()

{

int current\_size = 0;

int packet\_counter = 1;

for (int i = 0; i < num\_packets; i++)

{

printf("\nEnter the size of packet %d: ", i + 1);

scanf("%d", &packet\_sizes[i]);

printf("\nPacket %d arrives with size %d", i + 1, packet\_sizes[i]);

if ((current\_size + packet\_sizes[i]) <= bucket\_size)

{

current\_size += packet\_sizes[i];

printf("\nPacket %d is added to the bucket. Current bucket size: %d", i + 1, current\_size);

}

else

{

printf("\nBucket overflow! Packet %d is discarded.", i + 1);

}

while (current\_size >= output\_rate)

{

current\_size = current\_size-output\_rate;

printf("\nPacket %d is sent. \nCurrent bucket size: %d", packet\_counter, current\_size);

packet\_counter++;

}

}

if(current\_size<output\_rate)

{

printf("\nBucket is empty.");

}

}

int main()

{

printf("Enter the max bucket capacity: ");

scanf("%d", &bucket\_size);

printf("Enter the output rate: ");

scanf("%d", &output\_rate);

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

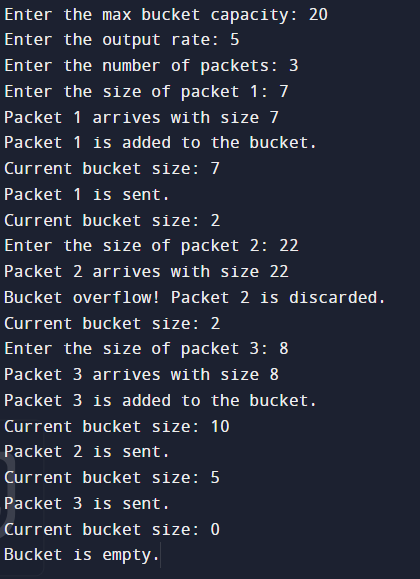
scanf("%d", &num\_packets);

leaky\_bucket();

return 0;

}

**OUTPUT:**

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