#include<stdio.h>

#include<stdlib.h>

#include<unistd.h>

#define NOF\_PACKETS 10

Int rand(int a)

{

Int rn = (random() % 10) % a;

Return rn == 0 ? 1 : rn;

}

Int main()

{

Int packet\_sz[NOF\_PACKETS], I, clk, b\_size, o\_rate, p\_sz\_rm=0, p\_sz, p\_time, op;

For(I = 0; i<NOF\_PACKETS; ++i)

Packet\_sz[i] = rand(6) \* 10;

For(I = 0; i<NOF\_PACKETS; ++i)

Printf(“\npacket[%d]:%d bytes\t”, I, packet\_sz[i]);

Printf(“\nEnter the Output rate:”);

Scanf(“%d”, &o\_rate);

Printf(“Enter the Bucket Size:”);

Scanf(“%d”, &b\_size);

For(I = 0; i<NOF\_PACKETS; ++i)

{

If( (packet\_sz[i] + p\_sz\_rm) > b\_size)

If(packet\_sz[i] > b\_size)/\*compare the packet siz with bucket size\*/

Printf(“\n\nIncoming packet size (%dbytes) is Greater than bucket capacity (%dbytes)-PACKET REJECTED”, packet\_sz[i], b\_size);

Else

Printf(“\n\nBucket capacity exceeded-PACKETS REJECTED!!”);

Else

{

P\_sz\_rm += packet\_sz[i];

Printf(“\n\nIncoming Packet size: %d”, packet\_sz[i]);

Printf(“\nBytes remaining to Transmit: %d”, p\_sz\_rm);

P\_time = rand(4) \* 10;

Printf(“\nTime left for transmission: %d units”, p\_time);

For(clk = 10; clk <= p\_time; clk += 10)

{

Sleep(1);

If(p\_sz\_rm)

{

If(p\_sz\_rm <= o\_rate)/\*packet size remaining comparing with output rate\*/

Op = p\_sz\_rm, p\_sz\_rm = 0;

Else

Op = o\_rate, p\_sz\_rm -= o\_rate;

Printf(“\nPacket of size %d Transmitted”, op);

Printf(“----Bytes Remaining to Transmit: %d”, p\_sz\_rm);

}

Else

{

Printf(“\nTime left for transmission: %d units”, p\_time-clk);

Printf(“\nNo packets to transmit!!”);

}

}

}

OUTPUT : 



