AIM:

Write a program to simulate random early detection congestion control algorithm.

PROGRAM:

#include <stdlib.h>

#include <stdio.h>

#include <math.h>

void main()

{

int i,j,q,numhost,count,minth,maxth,time,simtime,m,qtime,totalpack;

double wq,avg,maxp,pa,pb;

simtime=2;

wq=0.002;

minth=5;

maxth=15;

maxp=0.02;

clrscr();

/\* core RED algorithm \*/

avg=0;

count=-1;

qtime=0;

printf("enter the total no of packets generated by network:");

scanf("%d",&totalpack);

printf("core RED Algorithm \n");

for(time=0;time<simtime; time++)

{

printf("core RED Algorithm time =%d \r",time);

printf("packets dropped in time %d \n",time);

q=0;

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

{

if(q != 0) {

avg=(1-wq)\*avg+wq\*q;

//printf("average queue size %f\n", avg);

}

else {

m=time-qtime;

avg=pow((1-wq),m)\*avg;

//printf("average queue size %f\n", avg);

}

if(minth <= avg && avg < maxth )

{

count++;

pb=maxp\*(avg-minth)/(maxth-minth);

pa=pb/(1-count\*pb);

// printf("drop probabulity of packet %d is %f",i,pa);

if(pa >= 0.4)

{

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

count=0;

}

else

q++;

}

else if(maxth <= avg)

{

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

count=0;

}

else

{

count=-1;

q++;

}

if(q==0)

{

qtime=time;

}

}

}

getch();

}

/\*output:

enter the total no of packets generated by network:100

core RED Algorithm

packets dropped in time 0

packets dropped in time 1

53

88

89

90

91

92

93

94

95

96

97

98

99 \*/