**2 A) Develop a simple data link layer that performs the flow control using the sliding window protocol**

**AIM:**

**Program:**

#include<stdio.h>

int main(){

int n,f,frames[30],i;

printf("Enter window size : ");

scanf("%d",&n);

printf("Enter number of frames to transmit: ");

scanf("%d",&f);

printf("Enter %d frames: \n",f);

for(i=1;i<=f;i++){

scanf("%d",&frames[i]);

}

printf("\nWith sliding window protocol the frames will be sent in the following manner (assuming no corruption of frames)\n\n");

printf("After sending %d frames at each stage sender waits for acknowledgement sent by the receiver\n\n",n);

for(i=1;i<=f;i++){

if(i%n==0){

printf("%d ",frames[i]);

printf("\nAcknowledgement of above frames sent is received by sender\n\n");

}

else{

//printf("recieved by sender\n");

printf("%d ",frames[i]);

}

}

if(f%n!=0){

printf("\nAcknowledgement of above frames sent is received by sender\n");

}

}

**Output:**

Enter window size: 3

Enter number of frames to transmit: 5 Enter 5 frames: 12 5 89 4 6

With sliding window protocol the frames will be sent in the following manner (assuming no corruption of frames)

After sending 3 frames at each stage sender waits for acknowledgement sent by the receiver 12 5 89

Acknowledgement of above frames sent is received by sender 4 6

Acknowledgement of above frames sent is received by sender

**B. Develop a simple data link layer that performs the flow control using the Go Back N protocol in “c”**

**AIM:**

**Program:**

#include<stdio.h> int main()

{

int window=0;

printf("enter Window size : ");

scanf("%d",&window);

int sent,ack,i=0;

while(1){

for(i=0;i<window;i++){

printf("frame Transmitted %d \n",sent);

sent++;

if(sent==window){

break;

}

}

printf("enter last received acknowledgment : ");

scanf("%d",&ack);

if(ack==window){

break;

}

else{

sent = ack;

}

}

**Output:**

enter window size 8

Frame 0 has been transmitted.

Frame 1 has been transmitted.

Frame 2 has been transmitted.

Frame 3 has been transmitted.

Frame 4 has been transmitted.

Frame 5 has been transmitted.

Frame 6 has been transmitted.

Frame 7 has been transmitted.

Please enter the last Acknowledgement received. 2

Frame 2 has been transmitted.

Frame 3 has been transmitted.

Frame 4 has been transmitted.

Frame 5 has been transmitted.

Frame 6 has been transmitted

Frame 7 has been transmitted

Please enter the last Acknowledgement received. 8