

EXPERIMENT – 7

AIM: - Write a program to implement flow control at data link layer using SLIDING WINDOW PROTOCOL. Simulate the flow of frames from one node to another.

CODE: -

```
# include <stdio.h>
int main()
{
    int w,i,f,frames[50];
    printf("Enter window size");
    scanf("%d", &w);
    printf("\n Enter %d frames:", f);
    scanf("%d", &f);
    printf("\n Enter %d frames:", f);

    for (i=1; i<=f; i++)
        scanf("%d", &frames[i]);
    printf("\n With 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 frames at each stage
sender waits for acknowledgement sent by the receiver \n\n", w);

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

    {
        if(i%w==0)
        {
```

```
    }
    else

    }

\n");
}

if (f%w!=0)
printf("\n Acknowledgement of above frames sent is received by
sender return 0;
```

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

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

The screenshot shows a C online compiler interface on Programiz. The code in the editor is:

```
main.c
1. #include <stdio.h>
2. int main()
3. {
4.     int w,i,f,frames[10];
5.     printf("Enter window size: ");
6.     scanf("%d",&w);
7.     printf("Enter number of frames to transmit: ");
8.     scanf("%d",&i);
9.     printf("Sender has %d frames: ",i);
10.    for(i=1;i<=i;i++)
11.        printf("%d ",frames[i]);
12.    printf("\nWith sliding window protocol, the frames will be sent in the following manner (assuming no corruption of frames)\n");
13.    printf("After sending %d frames at each stage sender waits for acknowledgement sent by the receiver\n");
14.    printf("receiver logic:\n");
15.    for(i=1;i<=i;i++)
16.    {
17.        if(frames[i]==1)
18.            printf("No frame lost\n");
19.        printf("Acknowledgement of above frame sent is received by sender\n");
20.    }
21.    else
22.        printf("No frame\n");
23.    }
24.    printf("After sending %d frames at each stage sender waits for acknowledgement sent by the receiver\n");
25.    printf("receiver logic:\n");
26.    return 0;
27. }
```

The output window shows the following interaction:

```
Enter window size: 3
Enter number of frames to transmit: 6
Sender has 6 frames: 1 2 3 4 5 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
15 16 17 18 19
Acknowledgement of above frames sent is received by sender
20
Acknowledgement of above frames sent is received by sender
--- Code Execution Successful ---
```

OUTPUT:-

RESULT:-

The code for SLIDING WINDOW have been executed successfully and the output is verified.

