

## 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("\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 acknowledgements sent by the receiver \n\n", w);

    for(i=1; i<=f;i++)
    {
        if(i%w==0)
        {
        }
        else    printf("%d\n", frames[i]);

                printf("%d\n", frames[i]);
    }
    if (f%w!=0)
    printf("\nAcknowledgement of above frames sent is received by sender
\n"); return 0;
}
```

## OUTPUT: -

The screenshot shows the Programiz C Online Compiler interface. The code in the editor is:

```
main.c
1 #include<stdio.h>
2 int main()
3 {
4     int w,i,f,frames[50];
5     printf("Enter window size: ");
6     scanf("%d",&w);
7     printf("\nEnter number of frames to transmit: ");
8     scanf("%d",&f);
9     printf("\nEnter %d frames: ",f);
10    for(i=0;i<f;i++)
11        scanf("%d",&frames[i]);
12    printf("\nWith sliding window protocol the frames will be sent in the following manner (assuming no
13    corruption of frames)\n\n");
14    printf("After sending %d frames at each stage sender waits for acknowledgement sent by the
15    receiver\n\n",w);
16    for(i=0;i<f;i++)
17    {
18        if(i%w==0)
19        {
20            printf("%d\n",frames[i]);
21            printf("Acknowledgement of above frames sent is received by sender\n\n");
22        }
23        else
24        {
25            printf("%d ",frames[i]);
26        }
27    }
28    if(f%w!=0)
29        printf("\nAcknowledgement of above frames sent is received by sender\n");
30
31    return 0;
32 }
```

The output window shows the following interaction:

```
/tmp/C6dyVbXqou.o
Enter window size: 5
Enter number of frames to transmit: 6
Enter 6 frames: 15 16 17 18 19 20
With sliding window protocol the frames will be sent in the following manner (assuming no corruption of
frames)
After sending 5 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 ---
```

The taskbar at the bottom of the screen shows various application icons.

## RESULT: -

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