

## 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 Online Compiler interface. On the left, the code file 'main.c' is displayed:

```
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=1;i<=f;i++)
11    {
12        scanf("%d",&frames[i]);
13    }
14    printf("\nWith sliding window protocol the frames will be sent in the following manner (assuming no
15    corruption of frames)\n\n");
16    printf("After sending %d frames at each stage sender waits for acknowledgement sent by the
17    receiver\n\n",w);
18    for(i=1;i<=f;i++)
19    {
20        if(i%w==0)
21        {
22            printf("%d\n",frames[i]);
23            printf("Acknowledgement of above frames sent is received by sender\n\n");
24        }
25        else
26            printf("%d ",frames[i]);
27    }
28 }
```

On the right, the 'Output' tab shows the execution results:

```
/tmp/C5dvbbKopu.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 status bar at the bottom indicates 'High UV Now' and the date/time '8/2/2024 11:00 AM'.

## RESULT: -

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