

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

## OUTPUT: -

The screenshot shows the Programiz C Online Compiler interface. On the left, the code for '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        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=1;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            printf("%d ",frames[i]);
25    }
26    if(f%w!=0)
27        printf("\nAcknowledgement of above frames sent is received by sender\n");
28    return 0;
29 }
```

In the center, there are several icons for file operations like Open, Save, Share, Run, and Output. The 'Run' button is highlighted. To the right of the Run button is a 'Premium Coding Courses by Programiz' banner featuring a person working on a laptop and various icons. Below the banner is a 'Programiz PRO' button.

The 'Output' section on the right shows the program's execution:

```
/tmp/C6dvbbKouu.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 ---
```

At the bottom of the window, there is a toolbar with icons for search, file operations, and other utilities. The status bar at the bottom right shows the date and time: 8/29/2024 11:08 AM.

## RESULT: -

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