

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.

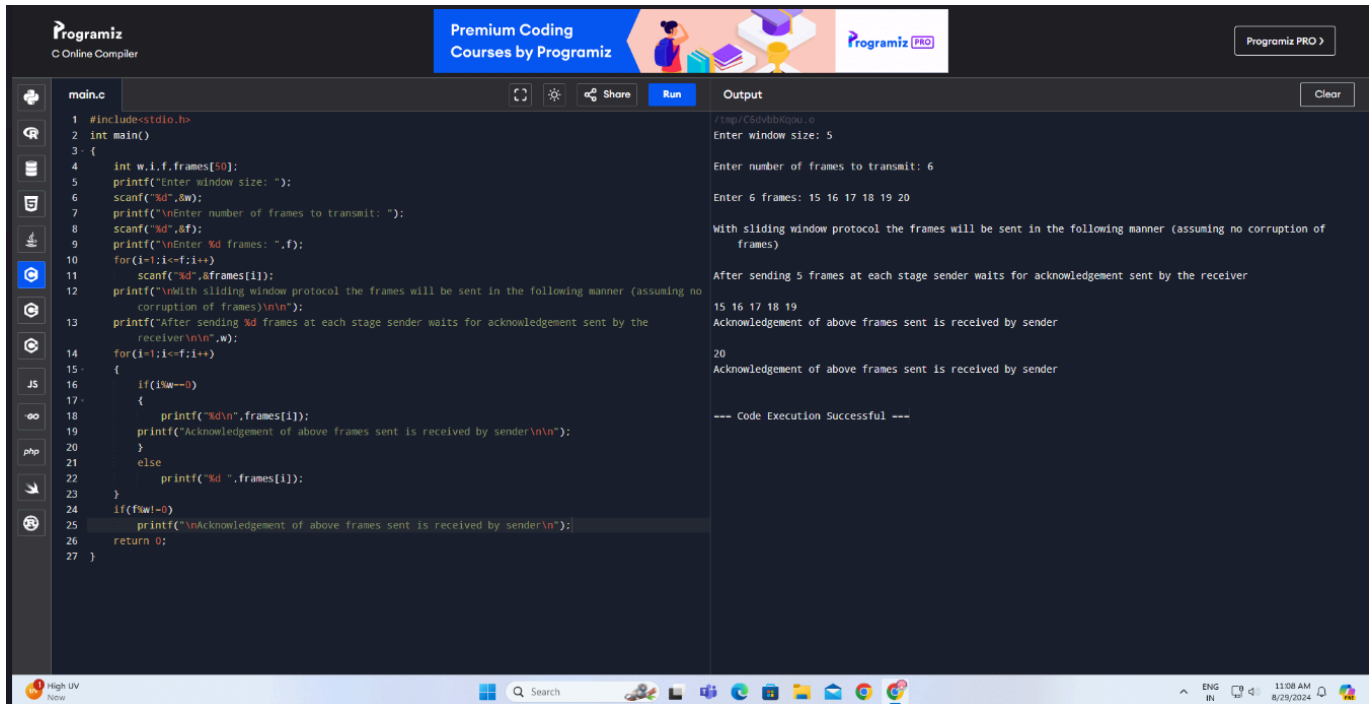
CODE: -

```
# 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 displays the Programiz C Online Compiler interface. The left sidebar contains icons for various programming languages and a 'Run' button. The main editor shows a C program named 'main.c' that simulates a sliding window protocol. The code includes a window size of 5 and a total of 6 frames to be transmitted. It prints the sequence of frames sent and received, along with acknowledgments. The right panel shows the output of the program, which matches the expected behavior of the sliding window protocol. The bottom status bar indicates the system is running on a high UV node.

```
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 corruption of frames)\n\n");
13    printf("After sending %d frames at each stage sender waits for acknowledgement sent by the receiver\n\n",w);
14    for(i=1;i<=f;i++)
15    {
16        if(i%w==0)
17        {
18            printf("%d\n",frames[i]);
19            printf("Acknowledgement of above frames sent is received by sender\n\n");
20        }
21        else
22            printf("%d ",frames[i]);
23    }
24    if(f%w!=0)
25        printf("\nAcknowledgement of above frames sent is received by sender\n\n");
26    return 0;
27 }
```

Output:

```
/tmp/C6d4b4k0w.c
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 ---
```

RESULT: -

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