

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.

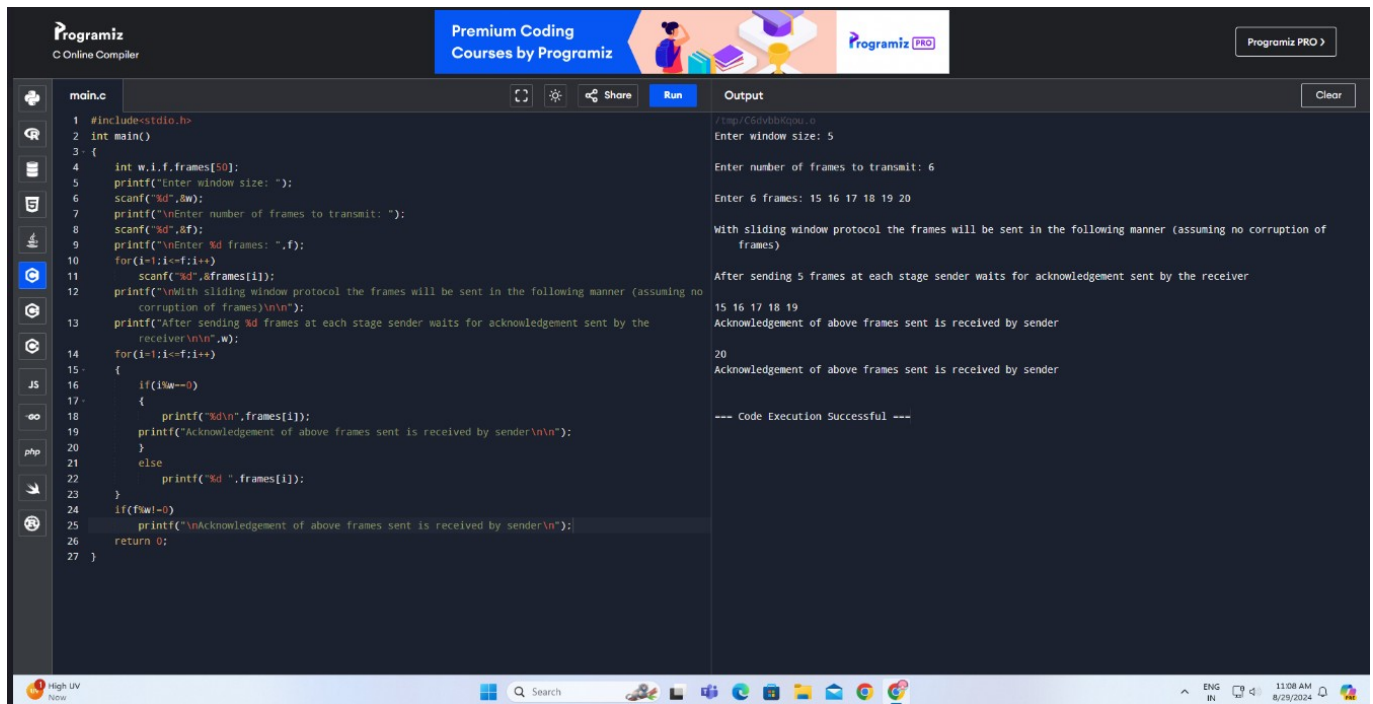
CODE: -

```
# 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 shows the file explorer with 'main.c' selected. The main editor contains a C program implementing a sliding window protocol. The program prompts the user for a window size (5) and the number of frames to transmit (6). It then displays the sequence of frames sent (15, 16, 17, 18, 19, 20) and the acknowledgments received by the sender (15, 16, 17, 18, 19, 20). The output panel on the right shows the execution results, confirming that the code executed successfully.

```
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 }
```

Output:

```
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.