

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: -

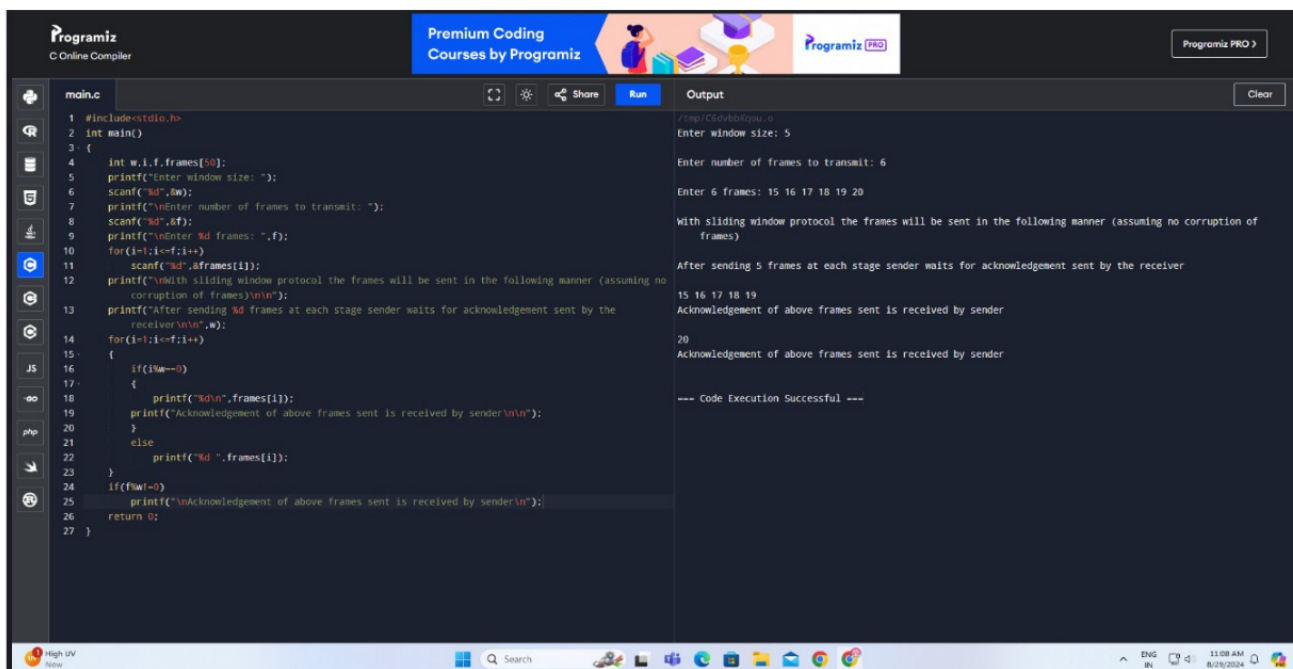
```
# include <stdio.h>
int main()
{
    int w,i,f,frames[50];
    printf("Enter window size");
    scanf("%d", &w);
    printf("\n Enter %d frames:", f);
    scanf("%d", &f);
    printf("\n Enter %d frames:", f);

    for (i=1; i<=f; i++)
        scanf("%d", &frames[i]);
    printf("\nWithslidingwindowprotocolthe frames will be sent
inthe followingmanner(assumingno corruptionofframes)\n\n");
    printf("Aftersending%dframesateachframes at each stage
senderwaitsforacknowledementsent bythereceiver \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("\nAcknowledementofaboveframessentis received by sender
\n"); return 0;
}
```

OUTPUT: -



The screenshot displays the Programiz Online Compiler interface. The left pane 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 transmit. It prints the sequence of frames sent (15, 16, 17, 18, 19) and the acknowledgments received (20). The right pane shows the output of the program, which matches the expected behavior of the sliding window protocol. The bottom status bar indicates 'High UV' and 'DNG IN'.

```
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");
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/C6dvBbKqou.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 ---
```

RESULT: -

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