

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: -

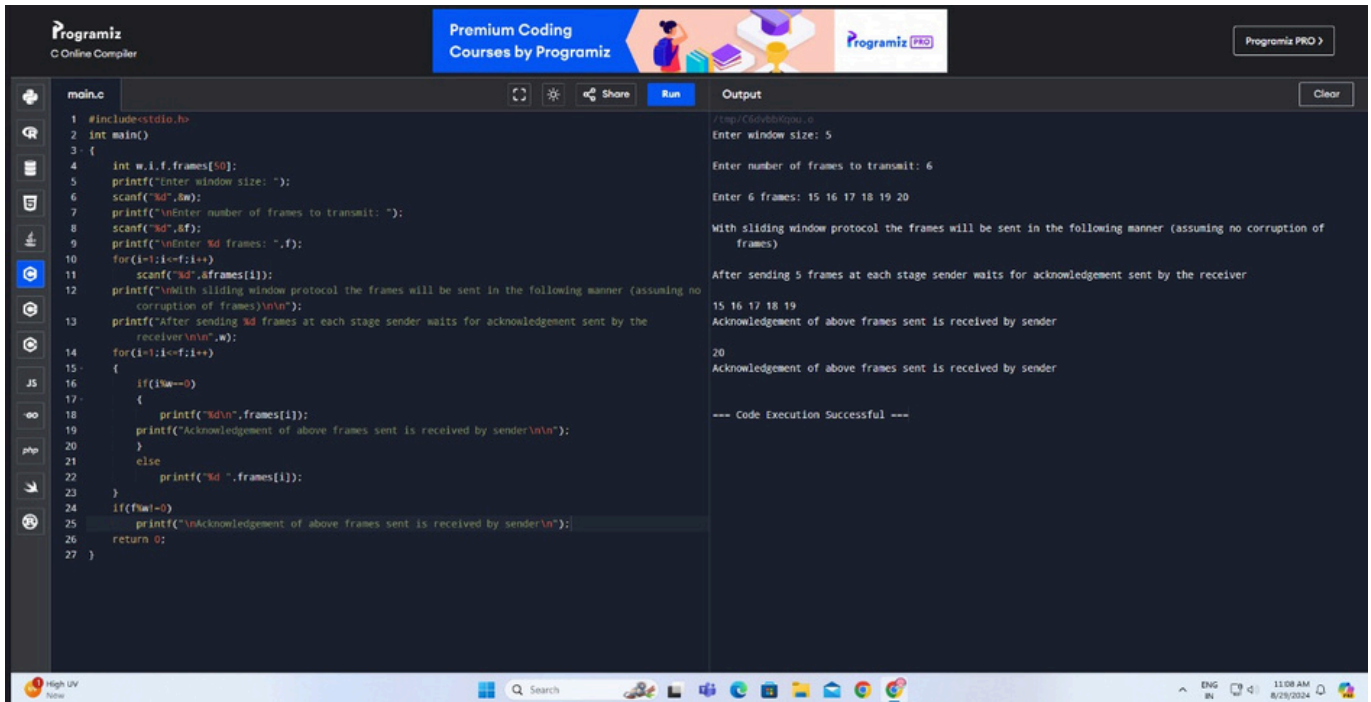
```
# include <stdio.h>
int main()
{
    int w,i,f,frames[50];
    printf("Enter window size");
    scanf("%d", &w);
    printf("\n Enter %d frames:", f);
    scanf("%d", &f);
    printf("\n Enter %d frames:", f);

    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("\nAcknowledgementofaboveframesentis 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' with the following code:

```
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("\n\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 }
```

The right pane shows the output of the program execution:

```
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
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 bottom of the image shows a Windows taskbar with the date and time as 11:08 AM on 8/29/2024.

RESULT: -

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