Experiment 10:

* Aim : Implement the Sliding Window Protocol in C
* Apparatus (Software):
* Turbo C++

**Algorithm:**

**Input the Window Size**:

* Prompt the user to input the window size w (the number of frames sent before waiting for acknowledgment).

**Input the Number of Frames**:

* Ask the user to input the total number of frames f that need to be transmitted.

**Input the Frame Data**:

* For each frame i (from 1 to f), prompt the user to input the frame data and store it in an array frames[].

**Frame Transmission**:

* Print a message indicating that the frames will be sent using the Sliding Window Protocol, assuming no corruption of frames.
* Notify the user that after sending w frames, the sender will wait for acknowledgment from the receiver.

**Send Frames**:

* Loop through each frame from i = 1 to f:
  + **If the frame index i is divisible by the window size w**:
    - Send the current frame i.
    - Print a message indicating the current frame number being sent.
    - Print a message that the acknowledgment of the above batch of frames (up to the current frame i) is received by the sender.
  + **If the frame index i is not divisible by the window size**:
    - Send the current frame i without waiting for acknowledgment.
    - Print the frame number.

**Handle Remaining Frames**:

* If the total number of frames f is not divisible by the window size w (i.e., some frames remain after the last full batch), print a message indicating that acknowledgment for these remaining frames is received by the sender.

**End**:

* The program terminates once all frames have been sent and acknowledged.

Code:

#include<stdio.h>

#include<conio.h>

int main()

{

int w,i,f,frames[50];

printf("Enter the window size: ");

scanf("%d",&w);

printf("\nEnter Number of frames to transmit: ");

scanf("%d",&f);

printf("\nEnter %d frames: ",f);

for(i=1;i<=f;i++)

scanf("%d",&frames[i]);

printf("\nWith sliding window protocol the frames wil be sent in the following manner (assuming no corruption of frames)\n\n");

printf("After sending %d frames at the stage sender waits for acknowledgemetnt sent by the recevier\n",w);

for(i=1;i<=f;i++)

{

if(i%w==0)

{

printf("%d\n",&frames[i]);

printf("Acknoooowledgement ofabove frames sent is recevide by sender \n\n");

}

else

printf("%d",frames[i]);

}

if(f%w!=0)

printf("\nAcknowledgement of above frames sent is received by sender \n");

return 0;

}

Output:

