C Code:

```c
#include<stdio.h>
#include<stdlib.h>
#include<unistd.h>
main()
{
int i,j,numframes,x,y,count=0;
char a[100];
printf("enter number of frames:\n");
scanf("%d",&numframes);
for(i=0;i<numframes;i++)
{
printf("enter data %d:\n",i+1);
scanf("%c%*c",&a[i]);
x=rand()%10;   x=4;
y=rand()%10;
if(i==x)
{
sleep(5);
printf("nak %d \n\n",i+1);
printf(" resend data %d : \n",i+1);
scanf("%c%*c",&a[i]);
}
if((y!=x)&&(y<x)&&(count<=1))
{count++;
sleep(3);
printf(" ack %d\n",i+2);
}
}
sleep(3);
printf(" ack %d\n",i+1);
printf("\n end of sliding window protocol\n");
}
```

Output:

```
Enter the number of frames :
10
Enter data 1:
h
Enter data 2:
e
ack 3
Enter data 3:
l
ack 3
Enter data 4:
l
Enter data 5:       ack 5
o
Enter data 6:
u
```

Enter the number of frames: 10

Enter data 1: h

ack 2

Enter data 2: i

Enter data 3: w.

Enter data 4: Y

Enter data 5: t

nak 5

nak 5
Resend data 5 :
o
Enter data 7:
o
Enter data 8:
r
Enter data 9:
l
Enter data 10:
d
ack 11
End of sliding window protocol

Conclusion/Inference: (to be written by students)

Resend data 5 : t
ack 6
Enter data 6 : w
Enter data 7 : x
Enter data 8 : q
Enter data 9 : e
Enter data 10 : r
ack 11
End of sliding window protocol