

LAB ASSIGNMENT – 3

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19BCE2141

Q1. Sliding Window

Code –

```
#include <bits/stdc++.h>
```

```
using namespace std;
```

```
int frames[50];
```

```
void receiver(int s, int f)
```

```
{
```

```
    int i = (rand() % f);
```

```
    for (j; i <= f; i++)
```

```
    {
```

```
        if (i % s == 0)
```

```
        {
```

```
            cout << frames[i] << "\n";
```

```
            cout << "Acknowledgement of above frames sent is received by  
sender\n\n";
```

```
        }
```

```
    else
```

```
    {
```

```
        cout << frames[i] << " ";  
    }  
}
```

```
if (f % s != 0)
```

```
    cout << "\nAcknowledgement of above frames sent is received by  
sender\n";  
}
```

```
void sender(int s, int f, int i)
```

```
{  
    cout << "\nEnter " << f << " frames: ";  
    for (i = 1; i <= f; i++)  
    {  
        cin >> frames[i];  
    }  
    receiver(s, f);  
}
```

```
int main()
```

```
{  
    int s, i, f;
```

```
    cout << "Enter window size: ";
```

```
    cin >> s;
```

```
    cout << "\nEnter number of frames to transmit: ";
```

```

    cin >> f;

    sender(s, f, i);

    return 0;
}

```

Output –

```

D:\Study Material\SEM 4\NETCOM\LAB\Sliding Window.exe
Enter window size: 3

Enter number of frames to transmit: 5

Enter 5 frames: 19 5 12 89 32
19 5 12
Acknowledgement of above frames sent is received by sender

89 32
Acknowledgement of above frames sent is received by sender

-----
Process exited after 33.65 seconds with return value 0
Press any key to continue . . .

```

Q2. Go back N

Code –

```

#include <iostream>

#include <ctime>

#include <cstdlib>

using namespace std;

int nf, N, x = 0;

int ntr = 0;

void receiver(int i, int x)

```

```

{
for (int j = i; j < i + N && j <= nf; j++)
{
int flag = rand() % 2;
if (!flag)
{
cout << "Acknowledgment for Frame " << j << endl;
x++;
}
else
{
cout << "Frame " << j << " Not Received" << endl;
cout << "Retransmitting Window" << endl;
break;
}
}
}
void sender(int i)
{
for (int j = i; j < i + N && j <= nf; j++)
{
cout << "Sent Frame " << j << endl;
ntr++;
}
}
int main()

```

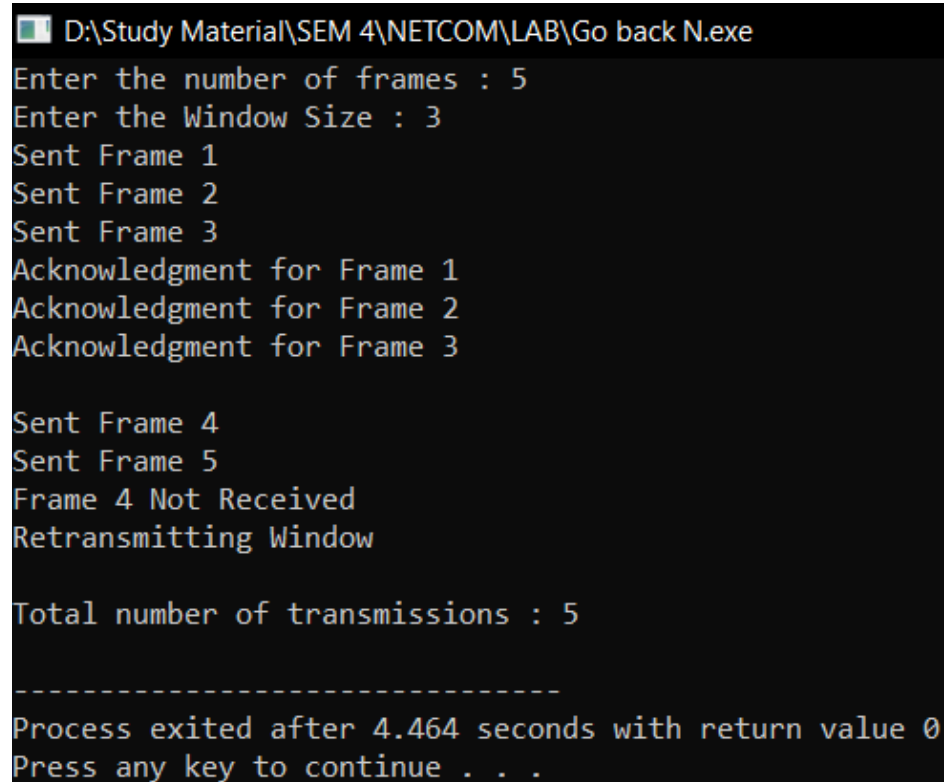
```

{
    srand(time(NULL));
    cout << "Enter the number of frames : ";
    cin >> nf;
    cout << "Enter the Window Size : ";
    cin >> N;
    int i = 1;
    while (i <= nf)
    {
        sender(i);
        for (int j = i; j < i + N && j <= nf; j++)
        {
            int flag = rand() % 2;
            if (!flag)
            {
                cout << "Acknowledgment for Frame " << j << endl;
                x++;
            }
            else
            {
                cout << "Frame " << j << " Not Received" << endl;
                cout << "Retransmitting Window" << endl;
                break;
            }
        }
        cout << endl;
    }
}

```

```
i += x;  
}  
  
cout << "Total number of transmissions : " << ntr << endl;  
  
return 0;  
  
}
```

Output –



```
D:\Study Material\SEM 4\NETCOM\LAB\Go back N.exe  
Enter the number of frames : 5  
Enter the Window Size : 3  
Sent Frame 1  
Sent Frame 2  
Sent Frame 3  
Acknowledgment for Frame 1  
Acknowledgment for Frame 2  
Acknowledgment for Frame 3  
  
Sent Frame 4  
Sent Frame 5  
Frame 4 Not Received  
Retransmitting Window  
  
Total number of transmissions : 5  
  
-----  
Process exited after 4.464 seconds with return value 0  
Press any key to continue . . .
```