14.8.25 Experiment - 7

Aim:

write a program to implement flow control using sliding window protocol.

Code:

```
#include <stdio.h>
#include <stdl
#include <string.h>
#include <unistd.h>
#include -
#define MAX 50
int main()
{ char message[MAX];
  int window = size;
  printf("Enter Message");
  scanf("%s", message);
  scanf("%d", &window-size);
  int length= strlen(message);
  int base=0;
  int next= 0;
  srand(time(0));
  while(base <length)
  { while(next< base+window-size && next<length)
    {
      printf("[5]sending frame : d ->%c\n",
      next, message[next]);
      sleep(1);
    }
```

```
int error_frame = base + (rand() % (next - base));
int error = (rand() % 4 == 0);
if (error)
{
    Printf("[R] Error! NACK for frame %d", error_frame);
    Sleep(1);
    printf("[S] Retransmitting");
    next = error_frame;
}
else
{
    Printf("[R] ACK received for frame %d -> %d,"
    base, next - 1)
    base = next;
    }
    Sleep(2);
}
Printf("All frames transmitted successfully!");
return 0;
}
```

Sample Input / output

Enter Message : Hello

Window size : 2

sending frame 0 -> H

1 -> e

ACK 0 -> 1

sending frame 2 -> l

3 -> l

NACK for frame 3

Retransmitting

Sending Frame 3 -> l

ACK 2 -> 3

sending frame 4 -> 0

NACK for frame 4

~~sending~~

All frame transmitted Successfully

Result:

Hence the sliding window protocol has been implemented successfully.