

EX.NO:3a IMPLEMENTATION OF STOP AND WAIT PROTOCOL**AIM:**

To write a program to simulate the stop and wait protocol

ALGORITHM:

1. Start the program, declare the variable.
2. Determine the packet size in bytes.
3. In the flow control, the sender sends a single frame to receiver & waits for an acknowledgment.
4. Wait for an event to happen and return its type is event.
5. Fetch a packet from the network layer for transmission on the channel.
6. The next frame is sent by sender only when acknowledgment of previous frame is received.
7. The process of sending a frame & waiting for an acknowledgment continues as long as the sender has data to send.
8. To end up the transmission sender transmits end of transmission (EOT) frame.

PROGRAM

```
#include<stdio.h>
#include<conio.h>
#define MAXSIZE 100
typedef struct
{
    unsigned char data[MAXSIZE];
}packet;
typedef enum{data,ack}frame_kind;
typedef struct
{
    frame_kind kind;
    int sq_no;
    int ack;
    packet info;
}frame;
typedef enum{frame_arrival}event_type;
typedef enum{true_false}boolean;
void frame_network_layer(packet *p)
{
    printf("\n from network arrival");
}
void to_physical_layer(frame *f)
{
    printf("\n to physical layer");
}
void wait_for_event(event_type *e)
{
    printf("\n waiting for event n");
}
void sender(void)
{
    frame s;
    packet buffer;
    event_type event;
    printf("\n ***SENDER***");
    frame_network_layer(&buffer);
    s.info=buffer;
    to_physical_layer(&s);
    wait_for_event(&event);
}
void from_physical_layer(frame *f)
{
    printf("from physical layer");
}
void to_network_layer(packet *p)
```

```

{
    printf("\n to network layer");
}
void receiver(void)
{
    frame r,s;
    event_type event;
    printf("\n ***RECEIVER***");
    wait_for_event(&event);
    from_physical_layer(&r);
    to_network_layer(&r.info);
    to_physical_layer(&s);
}
main()
{
    clrscr();
    sender();
    receiver();
    getch();
}

```

Output:

Sender

From network arrival to physical layer waiting for event n

Receiver

Waiting for event n from physical layer to network layer

To physical layer press any key to continue.....

RESULT:

Thus the program for stop and wait protocol was executed and output was verified successfully.