FRAME FORMAT

The **data link layer** splits long messages into a number of small segments which are small enough for the physical layer to handle. Each segment send is a packed framed consisting of various field which help in easier transmission and error detection.

The **frame format** used in the following implementation **doesn't** represent the actually standard format used in the real world. The format used here is just for the convenience of the user and to understand the formatting step easily.

Fields	Frame delimiter (start)	Sequence No.	Field Divider (-)	Frame type (N/E)	Field Divider (-)	Payload length (decimal)	Field Divider (-)	Payload (Actual Message)	Field Divider (-)	Error Detection (Checksum)	Frame Delimiter (End)
Example	<	01	-	N	-	06	-	nikhil	-		>

9 chars **11 chars** **6 chars**

Explanation

Fields	Characters	Description
Frame Delimiter (Start)	1	Represent the start of the frame with symbol '<'
Sequence Number	2	Tells about the frame number. (Always a 2-digit decimal)
Field Divider	1	A single '-' to divide the various fields in the frame.
Frame Type	1	Tells whether frame is end frame or not. N = Normal Frame which is not a final segment of the message. E = End frame which is the final segment of a message.
Field Divider	1	A single '-' to divide the various fields in the frame.
Payload Length	2	No. of characters in the payload (actual message) represented using 2-digit decimal number.
Field Divider	1	A single '-' to divide the various fields in the frame.
Payload (Actual Message)	0-99	Actual message, must not exceed the 99-char limit.
Field Divider	1	A single '-' to divide the various fields in the frame.
Checksum	5	Any error detection module implemented.
Frame Delimiter (End)	1	Represent the start of the frame with symbol '>'

Example

Let us assume the **MTU** (Maximum Transmission Unit) has size of **24** chars. Let the message to be sent is

My name is Nikhil. I live in Jammu and Kashmir. I stay in Kolkata.

Size of message = 66 chars

Since every frame has some prefix and suffix.

Prefix = <01-N-11- = 9 chars

Suffix = -abcd> = 6 chars

Maximum message length = 9

FORMAT

startOfFrame-SeqNo-TypeOfFrame-LengthOfMessage-Message-Checksum-endOfFrame

Hence the message will be divided in 8 frames.

Frame1=<00-N-09-My name i-cb21>

Frame2=<01-N-09-s Nikhil.-6973>

Frame3= <02-N-09- I live i-f04a>

Frame4= <03-N-09-n Jammu a-648f>

Frame5= <04-N-09-nd Kashmi-a706>

Frame6=<05-N-09-r. I stay-d83a>

Frame7=<06-N-09- in Kolka-b93a>

Frame8=<07-E-03-ta.-8b70>