

**CS 372**                      **Introduction to Computer Networks**  
**Self-Check Exercises: Lecture 38**

- 1) Draw the Ethernet frame (with Ethernet services, but abstracting the lower layers to header/payload).

- 2) What are some issues with using non-printable ASCII as frame delimiters?

- 3) Given the following "byte stuffing" scheme:

Character in data	Characters sent
soh	esc x
eot	esc y
esc	esc z

*Data:*

78h	04h	1Bh	7Ah	01h	1Bh
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Character	Hex code
soh	01h
eot	04h
esc	1Bh
'x'	78h
'y'	79h
'z'	7Ah

Note: **soh** and **eot** are the framing characters.

If Ethernet-style byte stuffing is used to transmit *Data*, what is the byte sequence of the frame, including framing characters? (Assume that all headers are included in *Data*.)

- 4) With 100Mbps Ethernet (using CSMA/CD with “exponential backoff”), what is the maximum wait time before attempting to re-send a frame after the 6<sup>th</sup> collision on the same frame?