Problem 2

a.

MTCP\_BIOC\_ON: It enables button interrupt-on-change. MTCP\_ACK is returned.

MTCP\_LED\_SET: The message should be sent when user is trying to set LED display values. It sets the user-set LED display values. These will be displayed on the LED displays when the LED display is in USR mode. The first byte of argument specifies which of the LED’s to set, and also determines how many bytes will follow – one byte for each LED to set. MTCP\_ACK is returned.

b.

MTCP\_ACK: It is sent when the MTC successfully completes a command. It serves as a return value when messages such as MTCP\_BIOC\_ON, MTCP\_BIOC\_OFF, and MTCP\_DBG\_OFF is sent.

MTCP\_BIOC\_EVENT: It is generated when the clock has reached zero when counting down or its maximum value when counting up. It conveys the message that the clock has been run out.

MTCP\_RESET: It is generated when the device re-initializes itself after a power-up, a RESET button press, or an MTCP\_RESET\_DEV command.

c.

The function which calls it(i.e. tuxctl\_ldisc\_data\_callback) is called from an interrupt context.