1 Plot voltage vs. time of the Tx line in RS-232 for sending this text: "Z#" (without the quotation marks, with a capital "Z"). Assume ±12 V signal voltages, 53 kbaud, eight data bits, and one stop bit. Be sure to label your axes properly. An ASCII table can be found in many places, e.g. http://www.asciitable.com Note that the illustration in the Wikipedia reading does not have properly labeled axes. Specifically, the independent axis lacks scale and units.

Solution:

From an ASCII table, "Z" = 0101 1010, "#" = 0010 0011

This least significant bit of the first character is sent first.

This most significant bit of the last character is sent last.

At 53000 kbaud each clock cycle is 1/53000 s long. That is 18.87 μs per clock cycle.

Logic-0 is +12 V.
Logic-1 is –12 V
A start bit is a logic-0 or +12 V
A stop bit is a logic-1 or –12 V

10/10