Homework – RS485 Communications

RS485 using the NXT Brick and NXC Programming were covered in Lecture and Lab. Using these as reference, complete the following problems:

1. What is the ASCII binary value for the uppercase character U? Sketch what should be seen on the scope when U is transmitted. Confirm your sketch with a photo of the oscilloscope display when U is transmitted. Annotate your photo using Figure 1C from lab as an example (10-points)

2. Write an NXC program to guess a number between 1 and 21. The PC transmits the guessed number to the Brick. The Brick's user uses the left and arrow buttons to respectively transmit "lower" and "higher" strings back to the PC. When the PC transmits the correct number, the Brick's user presses the Orange button to say "Correct!" Provide the NXC code making sure it's well-documented and readable (e.g. use white spaces). Provide link to YouTube video demoing execution of the program (20-points)