

## Homework –XL-320 NXC Programming LED

The XL-320 Dynamixel features firmware and uses RS485 communications to transmit and receive byte packets. The H-files and example NXC code to program the XL-320's LED was covered in Lab.

1. What is Little Endian? Provide an example using a 16-bit number (i.e. 2-bytes). Show the calculations (decimal, hexadecimal, and binary) to demonstrate Little Endian representation (10-points)
2. Programming the XL-320's LED
  - a. What is the address for controlling the LED? Provide both hexadecimal, decimal and binary values
  - b. URL of the XL-320 online E-manual showing this information i.e. Control Table of RAM area, confirming your answer above
  - c. Image capture of online E-manual showing this information
  - d. Highlight area in your H-file that defines the LED value
3. Write an NXC program for the following: Pushing the LEGO Brick's right arrow button makes the XL-320's LED glow yellow. Pushing the left arrow button turns it off. Pushing the Orange button turns the LED off, plays a tone, and quits the program (20-points). Provide the following
  - a. All files (e.g. NXC and Headers). Comment and make readable (e.g. good use of white space)
  - b. URL to your YouTube video demonstrating this program