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xl320-helloServo1_0a.nxc
// FILE: xl320-helloServo1_0a.nxc - Works!
// DATE: 12/08/19 14:03
// AUTH: P.0h
// DESC: Command servo to rotate back-and-forth by fixed amount
// VERS: 1.0a: based on P.0h's xl320-defines1_0a.h and xl320-functions1_0a.h
// REFS: xl320-functions1_0a.h; xl320-defines.h, xl320-helloLed1_0a.nxc
// 09/10/19 ppt-paul0hDynamixelXL320HeaderFile-1.0a.pptx
// NOTE: If factory default XL-320 used, then ID is 0x01
// ID of 0xFE commands any and all XL-320 motors

#include "xl320-defines1_0a.h" // XL-320 defines from Control Table
#include "xl320-functions1_0a.h" // P.0h functions written for XL-320

#define ID_ALL_MOTORS 0xFE // 0xFE commands all XL-320 motors
#define ID_MOTOR01 0X12 // Assumes Motor 1 configured with ID = 12

task main() {

    bool orangeButtonPushed; // Detect Brick Center button state
    bool rightArrowButtonPushed; // Detect Brick right arrow button state
    bool leftArrowButtonPushed; // Detect Brick left arrow button state
    bool greyButtonPushed; // Detect Brick Grey/Abort button state
    UseRS485();
    RS485Enable();
    // Note: First, use Dynamixel Wizard to set XL-320 to desired baud rate
    // Then, use RS485Uart to match this baud rate e.g. 57600
    RS485Uart(HS_BAUD_57600, HS_MODE_8N1); // 57600 baud, 8bit, 1stop, no parity

    ClearScreen();
    // Prompt user to begin
    TextOut(0, LCD_LINE1, "Stop: Press GRAY" );

    do {
        greyButtonPushed = ButtonPressed(BTNEXIT, FALSE);
        XL320_servo(ID_ALL_MOTORS, 900, 200); // rotate to motor position 900, speed
200
        Wait(1500);
        XL320_servo(ID_ALL_MOTORS, 0, 200); // counter-rotate to 0 at speed 200;
        Wait(1500);
    } while(!greyButtonPushed);
    ClearScreen();
} // end main

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