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// Task to run catapult
void run_catapult(void* params) {

    double catSpeed = 0;
    aimFire = false;
    bool justFired = false;
    double catPos = 0;
    double catSeek = -1;
    double catNextPos = 0;

    while (true) {

        // Start with catapult not moving
        catSpeed = 0;

        // Calculate current catapult position
        catPos = (cat_1.get_position() + cat_1.get_position())/2;

        double relativeAngle;

        // State machine for firing
        switch (fireState) {

            case 1:
                // First step, run catapult down full speed
                catSpeed = 127;
                catSeek = -1;
                // If we want to aim
                if (aimFire) {
                    // Get the angle from camera
                    relativeAngle = getRelativeAngle();
                    // And turn that angle
                    turnRelative(relativeAngle,-1);
                }
                // Once we hit the limit switch
                if (cat_Limit.get_value()) {
                    // Move to next step
                    fireState++;
                    // Tare motors
                    cat_1.tare_position();
                    cat_2.tare_position();
                }
                break;

            case 2:
                // Continue to run catapult down
                catSpeed = 127;
                catSeek = -1;
                // Continue to aim
                if (aimFire) {

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                    relativeAngle = getRelativeAngle();
                    turnRelative(relativeAngle,-1);
                }
            // Once we are no longer pressing the switch
            // (Catapult has fired)
            if (!cat_Limit.get_value()) {
                // Move onto next step
                fireState++;
                // Stop turning
                driveStop();
                aimFire = false;
                // For autonomous, next command is available
                nextCommand = true;
            }
            break;

        case 3:
            // We've fired, so draw catapult back to hold position
            catSeek = CAT_HOLD_POS;
            // If we hit the switch, then we're done
            // case 4 doesn't exist, so we will do nothing
            if (cat_Limit.get_value()) {
                fireState++;
            }
            break;

        case 5:
            // If we're here, just hold catapult at 0°
            catSeek = 0;
            break;

        case 10:
            // This is for when we want to draw back the catapult
            // w/o firing
            // Move catapult back slowly
            catSpeed = 60;
            catSeek = -1;
            // Once we hit the limit switch
            if (cat_Limit.get_value()) {
                // Move to next step (to do nothing)
                fireState++;
                // And hold the catapult at current position
                catSeek = catPos;
            }
            break;

        case 11:
            // Do nothing
            break;

        case 20:
            // This is for when we want to aim before we fire

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