```c
/**
 * @file auto.c
 * @brief The primary source for the autonomous operation period
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 *
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 */

#include "../include/auto.h"

bool isAuto = true;

void autonNone() {}
void autoHerbLeft();
void autoHerbRight();
void autoMeatLeft();
void autoMeatRight();

int    selectedAuton        = 3;
Auton autons[MAX_AUTON + 1] =
{ {
                // index 0
                .name       = "none",
                .sensorName = "lDrv",
                .sensor     = &drive[0].sensor,
                .execute    = &autonNone,
        },{
                // index 1
                .name       = "herb l",
                .sensorName = "rDrv",
                .sensor     = &drive[1].sensor,
                .execute    = &autoHerbLeft,
        },{
                // index 2
                .name       = "herb r",
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                .sensorName = "lIntake",
                .sensor     = &intake[0].sensor,
                .execute    = &autoHerbRight,
        },{
                // index 3
                .name       = "meat l",
                .sensorName = "rIntake",
                .sensor     = &intake[1].sensor,
                .execute    = &autoMeatLeft,
        },{
                // index 4
                .name       = "meat r",
                .sensorName = "gyroC",
                .sensor     = &gyro.child,
                .execute    = &autoMeatRight,
        },
};

void driveToPosition(int l, int r, unsigned long until) {
        driveSettings[0].target = l;
        driveSettings[1].target = r;
        until                   += millis();

        do {
                PID(&driveSettings[0]);
                PID(&driveSettings[1]);

                motorUpdate(&lift);
                sensorRefresh(lift.sensor);
                sensorRefresh(&gyro);

                for (int i = 0; i < 2; i++) {
                        motorUpdate(&drive[i]);
                        sensorRefresh(drive[i].sensor);
                }

                delay(10);
        } while ((!driveSettings[0].isTargetReached ||
                  !driveSettings[1].isTargetReached) &&
                  millis() < until);

        drive[0].power = 0;
        drive[1].power = 0;
        update();
} /* driveToPosition */
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void driveToPositionAngle(int l, int r, int a, unsigned long until) {
        int gError;
        driveSettings[0].target = l;
        driveSettings[1].target = r;
        until              += millis();

        do {
                gError = (a - gyro.averageVal) * 1.5;
                PID(&driveSettings[0]);
                PID(&driveSettings[1]);
                drive[0].power += gError;
                drive[1].power -= gError;

                motorUpdate(&lift);
                sensorRefresh(lift.sensor);
                sensorRefresh(&gyro);

                for (int i = 0; i < 2; i++) {
                        motorUpdate(&drive[i]);
                        sensorRefresh(drive[i].sensor);
                }

                delay(10);
        } while ((!driveSettings[0].isTargetReached ||
                  !driveSettings[1].isTargetReached) &&
                                        millis() < until);

        drive[0].power = 0;
        drive[1].power = 0;
        update();
} /* driveToPosition */


void turnTo(int angle, unsigned long until) {
        until += millis();

        gyroSettings[0].target = angle;
        gyroSettings[1].target = angle;

        do {
                PID(&gyroSettings[0]);
                PID(&gyroSettings[1]);

                update();
                delay(10);
        } while ((!gyroSettings[0].isTargetReached ||
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                              !gyroSettings[1].isTargetReached) &&
                                                    millis() < until);

        driveSet(0, 0);
} /* turnTo */

void autonomous() {
        unsigned long startTime = millis();
        isAuto = true;
        reset();

        selectedAuton = clipNum(selectedAuton, MAX_AUTON, 0);
        if (autons[selectedAuton].execute != NULL)
                autons[selectedAuton].execute();

        #ifdef DEBUG_MODE
                printf("\n\n\rFinished autonomous in %ldms\n\n", millis() - startTime);
        #endif

        if (selectedAuton) {
                for (size_t i = 0; i < 2; i++) {
                        driveSettings[i].min = -(driveSettings[i].max = 127);
                        gyroSettings[i].min  = -(gyroSettings[i].max  = 127);
                }

                intakeSet(127);

                driveToPosition(800, 800, 1500);
        }

        while (isAutonomous()) {
                update();
                delay(10);
        }
} /* autonomous */

Task driveToPositionAngleT(void *triple) {
        Triple *t = (Triple *)triple;

        driveSettings[0].target = t->a;
        driveSettings[1].target = t->b;

        do {
                PID(&driveSettings[0]);
                PID(&driveSettings[1]);
                drive[0].power += (t->c - gyro.averageVal) * 2.3;
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                    drive[1].power -= (t->c - gyro.averageVal) * 2.3;

                    motorUpdate(&lift);
                    sensorRefresh(lift.sensor);
                    sensorRefresh(&gyro);

                    for (int i = 0; i < 2; i++) {
                            motorUpdate(&drive[i]);
                            sensorRefresh(drive[i].sensor);
                    }

                    delay(10);
            } while ((!driveSettings[0].isTargetReached ||
                      !driveSettings[1].isTargetReached));

            drive[0].power = 0;
            drive[1].power = 0;
            delete(triple);
            taskDelete(NULL);
    } /* driveToPositionAngleT */
```