

File: C:\Users\grant\Documents\3946X\3946X-2018-19\auton.c

```
//This file contains specific autonomous routines

// Auton to run in square closest to flag
int autonTime=0;

void nearAutonFirstHalf(int side){
    motor[intake]=127;
    motor[slingshot]=127;
    pDrive(-450);
    clearTimer(T1);
    startTask(clawTask);
    clawPID.target=clawClosePos;
    startTask(liftControl);
    liftPID.target = 850;

    wait1Msec(2000);
    motor[slingshot]=0;

    pDrive(-670); //Drive back to hit flag

    //turns claw towards ground

    pDrive(600); //drive back
    liftPID.target = 500; //put lift on ground for claw to grab cap
    motor[intake]=0;

    pTurn(900 * side); //turn to face cap
    clawPID.target=clawOpenPos+30;

    startTask(rotatorTask);
    rotatorPID.target = rotatorLowPos;

    pDrive(700);
    clawPID.target=clawClosePos; //grap capa
    wait1Msec(200);
    rotatorPID.target=rotatorHighPos;
    liftPID.target=850; //lift up
    wait1Msec(600);
    drive(127);
    clawPID.target=clawOpenPos;
    wait1msec(200);
    drive(0);

    //pDrive(-0); //Drive back to align with platform
}

void nearAuton(int side){
    nearAutonFirstHalf(side);

    pTurn(-900*side); //turn to face platform
    clawPID.target=clawClosePos;
    drive(127);
    wait1msec(1850);
```

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```
drive(-50);
wait1Msec(50);
drive(0);

autonTime=timel[T1];

}

void prog() {
    nearAutonFirstHalf(BLUESIDE);
    pDrive(-500);
    pTurn(930);
    pDrive(1200);
    pTurn(-900);

    drive(127);
    wait1msec(2300);
    drive(-50);
    wait1Msec(50);
    drive(0);
}

// Auton to run in square farthest to flag
void farAuton(int side) {
    //red is 1, blue is -1
    clearTimer(T1);
    clawIdle = false;
    rotatorPID.target=rotatorLowPos;
    startTask(clawTask);
    startTask(liftControl);
    getLiftOutOfTheWay();
    clawPID.target=clawClosePos;
    startTask(rotatorTask);
    rotatorPID.target=rotatorLowPos;
    //put lift on ground for claw to grab cap
    motor[intake] = 127;
    pDrive(-1300); //back up to hit cap
    pDrive(230);
    motor[intake] = 0;
    pTurn(900 * side); //turn to face second cap
    liftPID.target = 400; //put lift on ground for claw to grab cap
    clawPID.target=clawOpenPos+60;
    startTask(rotatorTask);
    rotatorPID.target = rotatorLowPos;
    pDrive(420);
    clawPID.target=clawClosePos; //grab cap
    wait1Msec(200);
    rotatorPID.target=rotatorHighPos;
    liftPID.target=850;
    wait1Msec(200);
    clawPID.target=clawOpenPos;
    pDrive(-200);
    pTurn(-900*side);
    pDrive(350);
```

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```
pTurn(-900*side); //turn to face park

clawPID.target=clawClosePos;
drive(127);
wait1msec(1250);
drive(-127);
wait1Msec(50);
drive(0);

//lift up
/*
clawPID.target=670;
pTurn(-220*side); //turn to face second cap
pDrive(520);

clawPID.target=50; //grab second cap
rotatorPID.target=rotatorHighPos //flip cap
liftPID.target=1000; //lift up
wait1Msec(600);
liftPID.target=500;
clawPID.target=800; //drop cap

pTurn(520*side); //turn to face platform

drive(127);
wait1msec(1750);
drive(-50);
wait1Msec(50);
drive(0); */

autonTime=timel[T1];
}
```

