```
void forward(){
        Serial.printf("Going forward\n");
        //go straight 0.27 m
        if(forward_flag ==1){
        myMotorDriver.setDrive( LEFT_MOTOR, 0, f_motor_speed); //Stop motor
        myMotorDriver.setDrive( RIGHT_MOTOR, 0, f_motor_speed-15); //Stop motor
        }
        odom();
        forward_flag = forward_flag + 1;

        if(forward_flag > fwd_time){
        myMotorDriver.setDrive( LEFT_MOTOR, 0, 15); //Stop motor
        myMotorDriver.setDrive( RIGHT_MOTOR, 0, 15); //Stop motor
        forward_flag = 0;
        fwd_time = 1;
        delay(200);
        Serial.printf("done forward\n");
        }
}

void turn(){
        Serial.printf("turnning\n");
        //turning 90 degree
        if(turn_90_f == 1){
        myMotorDriver.setDrive( LEFT_MOTOR, 1, t_motor_speed); //turn motor
        myMotorDriver.setDrive( RIGHT_MOTOR, 0, t_motor_speed-50); //turn motor
        }
        odom();
        turn_90_f = turn_90_f + 1;
        if(turn_90_f % 8 == 0){
        myMotorDriver.setDrive( LEFT_MOTOR, 0, 15); //Stop motor
        myMotorDriver.setDrive( RIGHT_MOTOR, 0, 15); //Stop motor
        delay(500);
        myMotorDriver.setDrive( LEFT_MOTOR, 1, t_motor_speed); //turn motor
        myMotorDriver.setDrive( RIGHT_MOTOR, 0, t_motor_speed-50); //turn motor
        }
        if(turn_90_f > 9*turn_time){
        myMotorDriver.setDrive( LEFT_MOTOR, 0, 15); //Stop motor
        myMotorDriver.setDrive( RIGHT_MOTOR, 0, 15); //Stop motor
        turn_90_f = 0;
        turn_time = 1;
        delay(200);
        Serial.printf("done turnning\n");
        }
}
```

```
void observation(){
        if(scan_flag == 1){
        turn_clk = 0;
        sen_flag = 0;
        sen_mes = 1;
        myMotorDriver.setDrive( LEFT_MOTOR, 1, motor_speed); //turn motor
        myMotorDriver.setDrive( RIGHT_MOTOR, 0, motor_speed - 15); //turn motor
        }
        scan_flag = scan_flag + 1;
        if(turn_clk % 5 == 0){
          Serial.printf("Measured\n");
          sen_flag =0;
        }
        if(sen_flag ==0){
        distanceSensor.startRanging(); //Write configuration block of 135 bytes to setup a
measurement
        while (!distanceSensor.checkForDataReady())
        {
          delay(1);
        }
        int distance = distanceSensor.getDistance(); //Get the result of the measurement from
the sensor
        distanceSensor.clearInterrupt();
        distanceSensor.stopRanging();
        f[sen_mes] = (float)distance * 1.0/1000.0;
        sen_mes = sen_mes + 1;
        sen_flag = 1;
        }
        turn_clk = turn_clk + 1;
        if(turn_clk >= 90){
        myMotorDriver.setDrive( LEFT_MOTOR, 0, 15); //Stop motor
        myMotorDriver.setDrive( RIGHT_MOTOR, 0, 15); //Stop motor
        scan_flag = 0;
        Serial.printf("Done\n");
        f[19] = x_odom;
        f[20] = y_odom;
        f[21] = yaw_odom;
        delay(200);
        }
}
```