

# CAC240: Additional Tips to Assist with the Line Tracking Assignment

## TIP:

There are three input pins for the infrared sensors on the Raspberry Pi

- Pin 14 = IR01 (Infrared 01)
- Pin 15 = IR02 (Infrared 02)
- Pin 23 = IR03 (Infrared 03)

## TIP:

The LMR variable provides the various settings of the left, middle, right (LMR) sensors. The documentation for the robot does not provide details on what the LMR variable settings are. Below is my guess on which values are set up to the sensor combinations.

LEFT Sensor	MIDDLE Sensor	RIGHT Sensor	Value	Direction
High	Low	Low	1	Slight Left
Low	High	Low	2	Forward
Low	Low	High	3	Slight Right
High	High	Low	4	Left
Low	High	High	6	Right
High	High	High	7	No movement

## TIP:

The setMotorModel function runs the motors and moves the wheels.

setMotorModel(left\_front\_motor, left\_rear\_motor, right\_front\_motor, right\_rear\_motor)

- Positive values move the wheels forward
- Negative values move the wheels backward
- Zero values make the car stand still
- The larger the absolute value, the faster the motor

TIP:

Movements seem erratic on the robot, but the sensors are detecting the line and adjusting the robot to follow the line.

TIP:

To allow the car to run freely without having to be tethered to the computer, use crontab. See **HOW TO: Free Your Robot with Crontab** for more details.